BEFORE SUBMITTING YOUR BID

- 1. Use pen and ink to complete the Bid.
- 2. Have you signed and completed the Contract Agreement, Offer & Award Forms?
- 3. As a minimum, the Bidder will submit a Bid Package consisting of the Notice to Contractors, the completed Acknowledgement of Bid Amendments & Submission of Bid Bond Validation Number form, the completed Schedule of Items, 2 copies of the completed Agreement, Offer, & Award form, a Bid Bond or Bid Guarantee, and any other Certifications or Bid Requirements listed in the Bid Book.
- 4. Have you included prices for all Bid Items? ("Zero is not considered a bid price.")
- 5. Have you included a bid guarantee? Acceptable forms are:
 - A. Bid Bond on the Department's prescribed form for 5% of the Bid Amount. (Or forms that do not contain any significant variations from the Department's forms as solely determined by the Department.)
 - B. Official Bank Check, Cashier's Check, Certified Check, U.S. Postal Money Order or Negotiable Certificate of Deposit in the amount stated in the Notice to Contractors.
- 6. If the written Bid is to be sent, Federal Express overnight delivery is suggested as the package is delivered directly to the DOT Headquarters Building in Augusta. Other means, such as U.S. Postal Services' Express Mail has proven not to be reliable.

AND FOR FEDERAL AID PROJECTS

7. Have you included your DBE Utilization commitment in the proper amounts and signed the DBE Certification?

If you need further information regarding Bid preparation, call the DOT Contracts Section at (207)624-3410.

For complete specifications regarding bidding requirements, refer to Section 102 of the Maine Department of Transportation, Standard Specifications, Revision December 2002.

NOTICE

The Maine Department of Transportation is attempting to improve the way Bid Amendments/Addendums are handled, and allow for an electronic downloading of bid packages from our website, while continuing to maintain a planholders list.

Prospective bidders, subcontractors or suppliers who wish to download a copy of the bid package and receive a courtesy notification of project specific bid amendments, must provide an email address to Diane Barnes at the MDOT Contracts mailbox at:

MDOT.contracts@maine.gov. Each bid package will require a separate request.

Additionally, interested parties will be responsible for reviewing and retrieving the Bid Amendments from our web site, and acknowledging receipt and incorporating those Bid Amendments in their bids using the Acknowledgement of Bid Amendment Form.

The downloading of bid packages from the MDOT website is <u>not</u> the same as providing an electronic bid to the Department. Electronic bids must be submitted via http://www.BIDX.com. For information on electronic bidding contract Rebecca Pooler at rebecca.pooler@maine.gov.

NOTICE

For security and other reasons, all Bid Packages which are mailed, shall be provided in double (one envelope inside the other) envelopes. The *Inner Envelope* shall have the following information provided on it:

Bid Enclosed - Do Not Open

PIN:

Town:

Date of Bid Opening:

Name of Contractor with mailing address and telephone number:

In Addition to the usual address information, the *Outer Envelope* should have written or typed on it:

Double Envelope: Bid Enclosed

PIN:

Town:

Date of Bid Opening:

Name of Contractor:

This should not be much of a change for those of you who use Federal Express or similar services.

Hand-carried Bids may be in one envelope as before, and should be marked with the following infrormation:

Bid Enclosed: Do Not Open

PIN:

Town:

Name of Contractor:

STATE OF MAINE DEPARTMENT OF TRANSPORTATION

Bid Guaranty-Bid Bond Form

| KNOW ALL MEN BY THESE PRESEN | NTS THAT | |
|---|-----------------------|--|
| , of the | : City/Town of | and State of |
| as Principal, and | | as Surety, a |
| Corporation duly organized under the laws | of the State of | and having a usual place of |
| Business in | and hereby held | and firmly bound unto the Treasurer of |
| the State of Maine in the sum of | ,for p | ayment which Principal and Surety bind |
| themselves, their heirs, executers, administ | | |
| The condition of this obligation is that the | Principal has submi | itted to the Maine Department of |
| Transportation, hereafter Department, a cer | rtain bid, attached h | nereto and incorporated as a |
| part herein, to enter into a written contract | for the construction | ı of |
| | | |
| | and if the | he Department shall accept said bid |
| and the Principal shall execute and deliver | a contract in the for | rm attached hereto (properly |
| completed in accordance with said bid) and | l shall furnish bond | s for this faithful performance of |
| said contract, and for the payment of all pe | rsons performing la | ubor or furnishing material in |
| connection therewith, and shall in all other | respects perform th | ne agreement created by the |
| acceptance of said bid, then this obligation | shall be null and ve | oid; otherwise it shall remain in full |
| force, and effect. | | |
| Signed | and sealed this | day of20 |
| WITNESS: | | PRINCIPAL: |
| | | By |
| | | By: |
| | | By: |
| WITNESS | | SURETY: By |
| | | Ву: |
| | _ | Name of Local Agency: |

NOTICE

Bidders:

Please use the attached "Request for Information" form when faxing questions and comments concerning specific Contracts that have been Advertised for Bid. Include additional numbered pages as required.

State of Maine Department of Transportation

REQUEST FOR INFORMATION

| Date _ | | Time | |
|------------------------|------|---------------------------------|--|
| Information Requested: | PIN: | | |
| | | | |
| | | | |
| | | | |
| | | | |
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| | | | |
| | | Phone: () | |
| | | the number listed in the Notice | |
| | | | |
| Response: | | | |
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| | | | |
| | | | |
| | | | |
| Response By: | | Date: | |

INSTRUCTIONS FOR PREPARING THE CONTRACTOR'S DISADVANTAGED BUSINESS ENTERPRISE UTILIZATION PLAN

The Contractor Shall:

- 1. Submit a completed <u>Contractor's Disadvantaged Business</u> <u>Enterprise Utilization Plan</u> to the Contract's Engineer by 4:30 P.M. on the Bid day.
- 2. Extend equal opportunity to MDOT certified DBE firms (as listed in MDOT's DBE Directory of Certified Businesses) in the selection and utilization of Subcontractors and Suppliers.

SPECIFIC INSTRUCTIONS FOR COMPLETING THE FORM:

Insert Contractor name, the name of the person(s) preparing the form, and that person(s) telephone and fax number.

Provide total Bid price, Federal Project Identification Number, and location of the Project work.

In the columns, name each DBE firm to be used, provide the Unit or Item cost of the Work/Product to be provided by the DBE firm, give a brief description of the Work, and the dollar value of the Work.

If no DBE firm is to be utilized, the Contractor must document the reason(s) why no DBE firms are being used. Specific supporting evidence of good faith efforts taken by Contractors to solicit DBE Bidders must be attached. This evidence, as a minimum, includes phone logs, e-mail and/or mail DBE solicitation records, and the documented results of these solicitations.

NOTICE

Disadvantaged Business Enterprise Proposed Utilization

The Apparent Low Bidder must submit the <u>Disadvantaged</u> Business Enterprise Proposed Utilization form by close of Business (4:30 P.M.) on Bid day.

The <u>Contractor's Disadvantaged Business Enterprise Proposed</u> <u>Utilization Plan</u> form contains additional information that is required by USDOT.

The <u>Contractor's Disadvantaged Business Enterprise Proposed</u> <u>Utilization Plan</u> form must be used.

A copy of the new <u>Contractor's Disadvantaged Business</u> <u>Enterprise Proposed Utilization Plan</u> and instructions for completing it are attached.

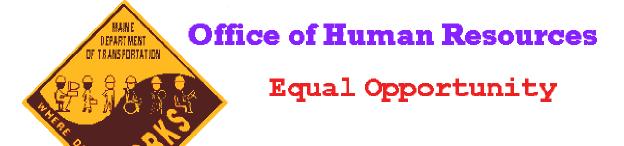
Note: Questions about DBE firms, or to obtain a printed copy of the DBE Directory, contact Equal Opportunity at (207) 624-3066.

MDOTs DBE Directory of Certified firms can also be obtained at http://www.state.me.us/mdot/humnres/o_equalo/cdwbed_h.htm

CONTRACTOR'S DISADVANTAGED BUSINESS ENTERPRISE PROPOSED UTILIZATION PLAN

Low Bidder shall furnish completed form to Contracts Section by 4:30 P.M. on Bid Opening day.

| то: | MDOT Contract 16 State House Augusta, Me 04 or Fax: 207-624-34 | e 04333-0016 | | Contractor: Prepared by: Fax: | | | |
|--|--|----------------|-----------|-------------------------------|-------------------------|-----------------|--|
| BID J | PRICE: \$ | FEDERAI | . PROJECT | Γ# | _LOCATION: _ | | |
| Т | OTAL DBE PAR | RTICIPATION A | S A PERCI | ENT OF TOTA | AL BID PRICE = | % | |
| | DBE Firm* | Unit/Item Cost | Unit # | | tion of work & m Number | Actual \$ Value | |
| | | | | | | | |
| If no DBE firm(s) are used, bidder must document efforts made to secure DBE participation and attach supporting evidence of this effort: Examples: Bidder relies wholly upon low quote subcontractor section, DBE firm(s) were not low quote. No DBE firms bid. *Only DBE firms certified by MDOT prior to bidding can be utilized by Contractor for DBE credit. Directory of certified DBEs is available on MDOT's website: www.state.me.us/mdot | | | | | | | |
| • | l Opportunity Use: | | | Act | tion: | | |



MAINE DEPARTMENT OF TRANSPORTATION

Certified Disadvantaged and Women Business Enterprise

DBE DIRECTORY - MINORITY OWNED

WBE DIRECTORY - WOMEN OWNED

WEBSITE FOR DIRECTORY CAN BE FOUND AT: http://www.state.me.us/mdot/humnres/o equalo/cdwbed h.htm

It is the responsibility of the Contractor to access the DBE Directory at this site in order to have the most current listings.

CASCO BAY BRIDGE

ENHANCEMENT PROJECT

PIN 009025.20

CASCO BAY BRIDGE ENHANCEMENT PROJECT PORTLAND-SOUTH PORTLAND, CUMBERLAND COUNTY PIN 009025.20

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Sample Performance Bond
Federal Wage Rate Determination

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Division 100 Special Provisions

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CASCO BAY BRIDGE

ENHANCEMENT PROJECT

PORTLAND/SOUTH PORTLAND – CUMBERLAND COUNTY PIN 009025.20

SECTION 1

STATE OF MAINE DEPARTMENT OF TRANSPORTATION NOTICE TO CONTRACTORS

Sealed Bids addressed to the Maine Department of Transportation, Augusta, Maine 04333 and endorsed on the wrapper "Bid for Casco Bay Bridge Improvements in the cities of <u>Portland – So. Portland</u>" will be received from contractors at the Reception Desk, Maine DOT Building, Child Street, Augusta, Maine, until 11:00 o'clock A.M. (prevailing time) on <u>June 16, 2004</u>, and at that time and place publicly opened and read. Bids will be accepted from contractors prequalified by the Department of Transportation for Bridge construction projects. All other Bids may be rejected. MDOT provides the option of electronic bidding. We accept electronic bids for those bid packages posted on the bidx.com website. Electronic bids do not have to be accompanied by paper bids. <u>Please note: the Department will accept a facsimile of the bid bond; however, the original bid bond must then be received at the MDOT Contract Section within 72 hours of the bid opening. During this transition, dual bids (one paper, one electronic) will be accepted, with the paper copy taking precedence.</u>

Description: Maine Federal Aid Project No. BH-9025(200)X, PIN. 9025.20

Location: In Cumberland County, project is located on Rte.77 at the Casco Bay Bridge, Portland - So. Portland.

Outline of Work: Machinery enclosures, siding, fencing, access ways, security cameras, bridge studding, and other incidental work.

For general information regarding Bidding and Contracting procedures, contact Scott Bickford at (207)624-3410. Our webpage at http://www.state.me.us/mdot/project/design/homepg.htm contains a copy of the schedule of items, Plan Holders List, written portions of bid amendments (not drawings), and bid results. For Project-specific information fax all questions to **Project Manager** Paul Pottle at (207)624-3431. Questions received after 12:00 noon of Monday prior to bid date will not be answered. Bidders shall not contact any other Departmental staff for clarification of Contract provisions, and the Department will not be responsible for any interpretations so obtained. Hearing impaired persons may call the Telecommunication Device for the Deaf at (207) 624-3007.

Plans, specifications and bid forms may be seen at the Maine DOT Building in Augusta, Maine. They may be purchased from the Department between the hours of 8:00 a.m. to 4:30 p.m. by cash, credit card (Visa/Mastercard) or check payable to Treasurer, State of Maine sent to Maine Department of Transportation, Attn.: Mailroom, 16 State House Station, Augusta, Maine 04333-0016. They also may be purchased by telephone at (207)624-3536 between the hours of 8:00 a.m. to 4:30 p.m. Full size plans \$20.00 (\$24.00 by mail). Half size plans \$10.00 (\$13.00 by mail), Bid Book \$10 (\$13 by mail), Single Sheets \$2, payment in advance, all non-refundable.

Each Bid must be made upon blank forms provided by the Department and must be accompanied by a bid bond at 5% of the bid amount or an official bank check, cashier's check, certified check, certificate of deposit, or United States postal money order in the amount of \$60,000.00 payable to Treasurer, State of Maine as a Bid guarantee. A Contract Performance Surety Bond and a Contract Payment Surety Bond, each in the amount of 100 percent of the Contract price, will be required of the successful Bidder.

This Contract is subject to all applicable Federal Laws. This contract is subject to compliance with the Disadvantaged Business Enterprise program requirements as set forth by the Maine Department of Transportation.

All work shall be governed by "State of Maine, Department of Transportation, Standard Specifications, Revision of December 2002", price \$10 [\$13 by mail], and Standard Details, Revision of December 2002, price \$20 [\$25 by mail]. Standard Detail updates can be found at http://www.state.me.us/mdot/project/design/homepg.htm

The right is hereby reserved to the MDOT to reject any or all bids.

Augusta, Maine May 26, 2004



JOHN E. DORITY CHIEF ENGINEER

Portland-South Portland PIN 9025.20 March 17, 2004 Supercedes October 29, 2003

SPECIAL PROVISION 102.7.3 ACKNOWLEDGMENT OF BID AMENDMENTS & SUBMISSION OF BID BOND VALIDATION NUMBER (IF APPLICABLE)

With this form, the Bidder acknowledges its responsibility to check for all Amendments to the Bid Package. For each Project under Advertisement, Amendments are located at http://www.maine.gov/mdot/comprehensive-list-projects/project-information.php It is the responsibility of the Bidder to determine if there are Amendments to the Project, to download them, to incorporate them into their Bid Package, and to reference the Amendment number and the date on the form below. The Maine DOT will not post Bid Amendments any later than noon the day before Bid opening without individually notifying all the planholders.

| Amendment Number | Date |
|------------------|------|
| | |
| | |
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| | |
| | |
| | |
| | |
| | |
| | |

The Contractor, for itself, its successors and assigns, hereby acknowledges that it has received all of the above referenced Amendments to the Bid Package.

| | CONTRACTOR |
|------|--|
| Date | Signature of authorized representative |
| | (Name and Title Printed) |

MAINE DEPARTMENT OF TRANSPORTATION

BID

DATE OF OPENING:

CALL ORDER :

CONTRACT ID : 009025.20

PROJECTS

BH-9025(200)X

COUNTY : CUMBERLAND

PAGE: 1 DATE: 040521

SCHEDULE OF ITEMS

REVISED:

CONTRACT ID: 009025.20 PROJECT(S): BH-9025(200)X

| LINE | • | | UNIT PRICE | BID AMOUNT |
|------------------|---|--------------------------|---------------|---------------------|
| | DESCRIPTION | QUANTITY - AND UNITS | DOLLARS CTS | S DOLLARS CT |
| | SECTION 00 | 001 BRIDGE IMPRO | VEMENTS | |
| | 104.10 BRIDGE COORDINATION | LUMP | | |
| | 504.7091 BRIDGE STUDDING - OPEN GRATING | • | | |
| | 507.08 BRIDGE RAILING 1' 11" | 140.000 LF | | |
| | 507.09 BRIDGE RAILING - 3' 6" | 150.000 LF | | |
| 0050 0050 | 535.70 MACHINE ENCLOSURE | | | |
| | 607.07 FENCES AND MEDIAN CLOSURE | * | | |
| 0070 | 638.10 SECURITY CAMERAS | | | |
| | 639.19 FIELD OFFICE - TYPE B | 1.000 EA | | |
| | 652.361 MAINTENANCE OF TRAFFIC CONTROL DEVICES | LUMP | | |
| | 655.60 MACHINE ENCLOSURE ELECTRICAL | | LUMP | |

PAGE: 2 DATE: 040518

SCHEDULE OF ITEMS

REVISED:

CONTRACT ID: 009025.20 PROJECT(S): BH-9025(200)X

| LINE | ITEM | APPROX. | UNIT PRICE | BID AMOUNT |
|------|--|------------------------|--------------|--------------------|
| OM | DESCRIPTION | QUANTITY - | DOLLARS CI | rs DOLLARS CTS |
| 0110 | 800.30 AIR BUFFER ACCESS | LUMP | LUMP | |
| | 815.50 BASCULE TOWER SIDING / SCAFFOLDING | LUMP | LUMP | |
| 0130 | 860.20 HYDRAULIC POWER UNITS RELOCATION & REDUCER MODIFICATION | LUMP | LUMP | |
| | 880.12 SPAN LOCK SOCKET MODIFICATION | LUMP | | |
| | 880.13 AIR BUFFER RETAINER PIN | LUMP | LUMP | |
| | 890.10 MISC. BRIDGE FEATURES - ALLOWANCE | \$110,000.00 | \$110 |),000.00 l |
| s | ECTION 0001 TOTAL | | | |
| | TOTAL BID | | | |

CONTRACT AGREEMENT, OFFER & AWARD

AGREEMENT made on the date last signed below, by and between the State of Maine, acting through and by its Department of Transportation (Department), an agency of state government with its principal administrative offices located at Child Street, Augusta, Maine, with a mailing address at 16 State House Station, Augusta, Maine 04333-0016, and

| a corporation or other legal entity or | rganized ur | nder the | laws | of the | State | of Maine, | with it |
|--|-------------|----------|------|--------|-------|-----------|---------|
| principal place of business located at | | | | | | | |

The Department and the Contractor, in consideration of the mutual promises set forth in this Agreement (the "Contract"), hereby agree as follows:

A. The Work.

The Contractor agrees to complete all Work as specified or indicated in the Contract including Extra Work in conformity with the Contract, PIN No. <u>9025.20</u>, for the <u>Casco Bay Bridge Enhancement Project</u> in the cities of Portland-South Portland, County of Cumberland, Maine. The Work includes construction, maintenance during construction, warranty as provided in the Contract, and other incidental work.

The Contractor shall be responsible for furnishing all supervision, labor, equipment, tools supplies, permanent materials and temporary materials required to perform the Work including construction quality control including inspection, testing and documentation, all required documentation at the conclusion of the project, warranting its work and performing all other work indicated in the Contract.

The Department shall have the right to alter the nature and extent of the Work as provided in the Contract; payment to be made as provided in the same.

B. Time.

The Contractor agrees to complete all Work, except warranty work, on or before **December 24, 2004.** Further, the Department may deduct from moneys otherwise due the Contractor, not as a penalty, but as Liquidated Damages in accordance with Sections 107.7 and 107.8 of the State of Maine Department of Transportation Standard Specifications, Revision of December 2002.

C. Price.

| The quantities given | in the Schedule of Items of the Bid Package will be used as the |
|--|---|
| basis for determinin | g the original Contract amount and for determining the amounts of |
| the required Perform of this offer is | ance Surety Bond and Payment Surety Bond, and that the amount |
| \$ | Performance Bond and Payment Bond each being |
| 100% of the amount | |

D. Contract.

This Contract, which may be amended, modified, or supplemented in writing only, consists of the Contract documents as defined in the Plans, Standard Specifications, Revision of December 2002, Standard Details Revision of December 2002 as updated through advertisement, Supplemental Specifications, Special Provisions, Contract Agreement; and Contract Bonds. It is agreed and understood that this Contract will be governed by the documents listed above.

E. Certifications.

By signing below, the Contractor hereby certifies that to the best of the Contractor's knowledge and belief:

- 1. All of the statements, representations, covenants, and/or certifications required or set forth in the Bid and the Bid Documents, including those in Appendix A to Division 100 of the Standard Specifications Revision of December 2002 (Federal Contract Provisions Supplement), and the Contract are still complete and accurate as of the date of this Agreement.
- 2. The Contractor knows of no legal, contractual, or financial impediment to entering into this Contract.
- 3. The person signing below is legally authorized by the Contractor to sign this Contract on behalf of the Contractor and to legally bind the Contractor to the terms of the Contract.

F. Offer.

The undersigned, having carefully examined the site of work, the Plans, Standard Specifications Revision of December 2002, Standard Details Revision of December 2002 as updated through advertisement, Supplemental Specifications, Special Provisions, Contract Agreement; and Contract Bonds contained herein for construction of: Casco Bay Bridge Enhancement Project, Portland-South Portland, State of Maine, on which bids will be received until the time specified in the "Notice to Contractors" do(es) hereby bid and offer to enter into this contract to supply all the materials, tools, equipment and labor to construct the whole of the Work in strict accordance with the terms and conditions of this Contract at the unit prices in the attached "Schedule of Items".

The Offeror agrees to perform the work required at the price specified above and in accordance with the bids provided in the attached "Schedule of Items" in strict accordance with the terms of this solicitation, and to provide the appropriate insurance and bonds if this offer is accepted by the Government in writing.

As Offeror also agrees:

First: To do any extra work, not covered by the attached "Schedule of Items", which may be ordered by the Resident, and to accept as full compensation the amount determined upon a "Force Account" basis as provided in the Standard Specifications, Revision of December 2002, and as addressed in the contract documents.

Second: That the bid bond at 5% of the bid amount or the official bank check, cashier's check, certificate of deposit or U. S. Postal Money Order in the amount given in the "Notice to Contractors", payable to the Treasurer of the State of Maine and accompanying this bid, shall be forfeited, as liquidated damages, if in case this bid is accepted, and the undersigned shall fail to abide by the terms and conditions of the offer and fail to furnish satisfactory insurance and Contract bonds under the conditions stipulated in the Specifications within 15 days of notice of intent to award the contract.

Third: To begin the Work on the date specified in the Engineer's "Notice to Commence Work" as stated in Section 107.2 of the Standard Specifications Revision of December 2002 and complete the Work within the time limits given in the Special Provisions of this Contract.

Fourth: The Contractor will be bound to the Disadvantaged Business Enterprise (DBE) Requirements contained in the attached Notice (Additional Instructions to Bidders) and submit a completed Contractor's Disadvantaged Business Enterprise Utilization Plan by 4:30pm on the day of bid opening to the Contracts Engineer.

Fifth: That this offer shall remain open for 30 calendar days after the date of opening of bids.

Sixth: The Bidder hereby certifies, to the best of its knowledge and belief that: the Bidder has not, either directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of competitive bidding in connection with its bid, and its subsequent contract with the Department.

IN WITNESS WHEREOF, the Contractor, for itself, its successors and assigns, hereby execute two duplicate originals of this Agreement and thereby binds itself to all covenants, terms, and obligations contained in the Contract Documents.

| | | CONTRACTOR | | | |
|------|---|--|--|--|--|
| Date | | (Signature of Legally Authorized Representative of the Contractor) | | | |
| | Witness | (Name and Title Printed) | | | |
| G. | Award. | | | | |
| | Your offer is hereby accepted. documents referenced herein. | This award consummates the Contract, and the | | | |
| | | MAINE DEPARTMENT OF TRANSPORTATION | | | |
| | Date | By: David A. Cole, Commissioner | | | |
| | Witness | | | | |

CONTRACT AGREEMENT, OFFER & AWARD

AGREEMENT made on the date last signed below, by and between the State of Maine, acting through and by its Department of Transportation (Department), an agency of state government with its principal administrative offices located at Child Street, Augusta, Maine, with a mailing address at 16 State House Station, Augusta, Maine 04333-0016, and a corporation or other legal entity organized under the laws of the State of Maine, with its principal place of business located at ______

The Department and the Contractor, in consideration of the mutual promises set forth in this Agreement (the "Contract"), hereby agree as follows:

A. The Work.

The Contractor agrees to complete all Work as specified or indicated in the Contract including Extra Work in conformity with the Contract, PIN No. <u>9025.20</u>, for the <u>Casco Bay Bridge Enhancement Project</u> in the cities of Portland-South Portland, County of Cumberland, Maine. The Work includes construction, maintenance during construction, warranty as provided in the Contract, and other incidental work.

The Contractor shall be responsible for furnishing all supervision, labor, equipment, tools supplies, permanent materials and temporary materials required to perform the Work including construction quality control including inspection, testing and documentation, all required documentation at the conclusion of the project, warranting its work and performing all other work indicated in the Contract.

The Department shall have the right to alter the nature and extent of the Work as provided in the Contract; payment to be made as provided in the same.

B. Time.

The Contractor agrees to complete all Work, except warranty work, on or before **December 24, 2004.** Further, the Department may deduct from moneys otherwise due the Contractor, not as a penalty, but as Liquidated Damages in accordance with Sections 107.7 and 107.8 of the State of Maine Department of Transportation Standard Specifications, Revision of December 2002.

C. Price.

| The quantities given in the | Schedule of Items of the Bid Package will be used as the | ıe |
|---|--|----|
| basis for determining the | riginal Contract amount and for determining the amounts of | of |
| the required Performance of this offer is | Surety Bond and Payment Surety Bond, and that the amount | at |
| \$ | Performance Bond and Payment Bond each being | ıg |
| 100% of the amount of thi | Contract. | Ī |

D. Contract.

This Contract, which may be amended, modified, or supplemented in writing only, consists of the Contract documents as defined in the Plans, Standard Specifications, Revision of December 2002, Standard Details Revision of December 2002 as updated through advertisement, Supplemental Specifications, Special Provisions, Contract Agreement; and Contract Bonds. It is agreed and understood that this Contract will be governed by the documents listed above.

E. Certifications.

By signing below, the Contractor hereby certifies that to the best of the Contractor's knowledge and belief:

- 1. All of the statements, representations, covenants, and/or certifications required or set forth in the Bid and the Bid Documents, including those in Appendix A to Division 100 of the Standard Specifications Revision of December 2002 (Federal Contract Provisions Supplement), and the Contract are still complete and accurate as of the date of this Agreement.
- 2. The Contractor knows of no legal, contractual, or financial impediment to entering into this Contract.
- 3. The person signing below is legally authorized by the Contractor to sign this Contract on behalf of the Contractor and to legally bind the Contractor to the terms of the Contract.

F. Offer.

The undersigned, having carefully examined the site of work, the Plans, Standard Specifications Revision of December 2002, Standard Details Revision of December 2002 as updated through advertisement, Supplemental Specifications, Special Provisions, Contract Agreement; and Contract Bonds contained herein for construction of: Casco Bay Bridge Enhancement Project, Portland-South Portland, State of Maine, on which bids will be received until the time specified in the "Notice to Contractors" do(es) hereby bid and offer to enter into this contract to supply all the materials, tools, equipment and labor to construct the whole of the Work in strict accordance with the terms and conditions of this Contract at the unit prices in the attached "Schedule of Items".

The Offeror agrees to perform the work required at the price specified above and in accordance with the bids provided in the attached "Schedule of Items" in strict accordance with the terms of this solicitation, and to provide the appropriate insurance and bonds if this offer is accepted by the Government in writing.

As Offeror also agrees:

First: To do any extra work, not covered by the attached "Schedule of Items", which may be ordered by the Resident, and to accept as full compensation the amount determined upon a "Force Account" basis as provided in the Standard Specifications, Revision of December 2002, and as addressed in the contract documents.

Second: That the bid bond at 5% of the bid amount or the official bank check, cashier's check, certificate of deposit or U. S. Postal Money Order in the amount given in the "Notice to Contractors", payable to the Treasurer of the State of Maine and accompanying this bid, shall be forfeited, as liquidated damages, if in case this bid is accepted, and the undersigned shall fail to abide by the terms and conditions of the offer and fail to furnish satisfactory insurance and Contract bonds under the conditions stipulated in the Specifications within 15 days of notice of intent to award the contract.

Third: To begin the Work on the date specified in the Engineer's "Notice to Commence Work" as stated in Section 107.2 of the Standard Specifications Revision of December 2002 and complete the Work within the time limits given in the Special Provisions of this Contract.

Fourth: The Contractor will be bound to the Disadvantaged Business Enterprise (DBE) Requirements contained in the attached Notice (Additional Instructions to Bidders) and submit a completed Contractor's Disadvantaged Business Enterprise Utilization Plan by 4:30pm on the day of bid opening to the Contracts Engineer.

Fifth: That this offer shall remain open for 30 calendar days after the date of opening of bids.

Sixth: The Bidder hereby certifies, to the best of its knowledge and belief that: the Bidder has not, either directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of competitive bidding in connection with its bid, and its subsequent contract with the Department.

IN WITNESS WHEREOF, the Contractor, for itself, its successors and assigns, hereby execute two duplicate originals of this Agreement and thereby binds itself to all covenants, terms, and obligations contained in the Contract Documents.

| | | CONTRACTOR | |
|------|---|---|--|
| Date | | (Signature of Legally Authorized Representat of the Contractor) | |
| | Witness | (Name and Title Printed) | |
| G. | Award. | | |
| | Your offer is hereby accepted. documents referenced herein. | This award consummates the Contract, and the | |
| | | MAINE DEPARTMENT OF TRANSPORTATION | |
| | Date | By: David A. Cole, Commissioner | |
| | Witness | | |

CONTRACT AGREEMENT, OFFER & AWARD

| AGREEMENT made on the date last signed below, by and between the State acting through and by its Department of Transportation (Department), an aggovernment with its principal administrative offices located at Child Street Au with a mailing address at 16 State House Station, Augusta, Maine 0433 (Name of the firm bidding the job) | ency of state gusta, Maine, |
|---|---|
| a corporation or other legal entity organized under the laws of the state of M principal place of business located at (address of the firm bidding the job) | aine, with its |
| The Department and the Contractor, in consideration of the mutual promises see Agreement (the "Contract"), hereby agree as follows: A. The Work. | |
| The Contractor agrees to complete all Work as specified or indicated in including Extra Work in conformity with the Contract, PIN No. 1224. the Hot Mix Asphalt Overlay | .00, for in the |
| town city of West Eastport Washington Maine. The Work includes construction, mainte | County of enance during |
| The Contractor shall be responsible for furnishing all supervision, labo tools supplies, permanent materials and temporary materials required to Work including construction quality control including inspection, documentation, all required documentation at the conclusion of the projectits work and performing all other work indicated in the Contract. The Department shall have the right to alter the nature and extent of provided in the Contract; payment to be made as provided in the same. | or, equipment, o perform the testing and ct, warranting |

B. Time.

The Contractor agrees to complete all Work, except warranty work, on or before November 15, 2003. Further, the Department may deduct from moneys otherwise due the Contractor, not as a penalty, but as Liquidated Damages in accordance with Sections 107.7 and 107.8 of the State of Maine Department of Transportation Standard Specifications, Revision of December 2002.

C. Price.

The quantities given in the Schedule of Items of the Bid Package will be used as the basis for determining the original Contract amount and for determining the amounts of the required Performance Surety Bond and Payment Surety Bond, and that the amount of this offer is _____ (Place bid here in alphabetical form such as One Hundred and

Two dollars and 10 cents)
\$ (repeat bid here in numerical terms, such as \$102.10)

Performance

Bond and Payment Bond each being 100% of the amount of this Contract.

D. Contract.

This Contract, which may be amended, modified, or supplemented in writing only, consists of the Contract documents as defined in the Plans, Standard Specifications, Revision of December 2002, Standard Details Revision of December 2002, Supplemental Specifications, Special Provisions, Contract Agreement; and Contract Bonds. It is agreed and understood that this Contract will be governed by the documents listed above.

E. Certifications.

By signing below, the Contractor hereby certifies that to the best of the Contractor's knowledge and belief:

- 1. All of the statements representations, covenants, and/or certifications required or set forth in the Bid and the Bid Documents, including those in Appendix A to Division 100 of the Standard Specifications Revision of December 2002 (Federal Contract Provisions Supplement), and the Contract are still complete and accurate as of the date of this Agreement.
- 2. The Contractor knows of no legal, contractual, or financial impediment to entering into this Contract.
- 3. The person signing below is legally authorized by the Contractor to sign this Contract on behalf of the Contractor and to legally bind the Contractor to the terms of the Contract.

F. Offer.

The undersigned, having carefully examined the site of work, the Plans, Standard Specifications, Revision of December 2002, Standard Details Revision of December 2002, Supplemental Specifications, Special Provisions, Contract Agreement; and Contract Bonds contained herein for construction of:

PIN 1234.00 West Eastport, Hot Mix Asphalt Overlay

State of Maine, on which bids will be received until the time specified in the "Notice to Contractors" do(es) hereby bid and offer to enter into this contract to supply all the materials, tools, equipment and labor to construct the whole of the Work in strict accordance with the terms and conditions of this Contract at the unit prices in the attached "Schedule of Items".

The Offeror agrees to perform the work required at the price specified above and in accordance with the bids provided in the attached "Schedule of Items" in strict accordance with the terms of this solicitation, and to provide the appropriate insurance and bonds if this offer is accepted by the Government in writing.

As Offeror also agrees

First. To do any extra work, not covered by the attached "Schedule of Items", which may be ordered by the Resident, and to accept as full compensation the amount determined upon a "Force Account" basis as provided in the Standard Specifications, Revision of December 2002, and as addressed in the contract documents.

Second: That the bid band at 5% of the bid amount or the official bank check, cashier's check, certificate of deposit or U. S. Postal Money Order in the amount given in the "Notice to Contractors", payable to the Treasurer of the State of Maine and accompanying this bid, shall be forfeited, as liquidated damages, if in case this bid is accepted, and the undersigned shall fail to abide by the terms and conditions of the offer and fail to furnish satisfactory insurance and Contract bonds under the conditions stipulated in the Specifications within 15 days of notice of intent to award the contract.

Third: To begin the Work on the date specified in the Engineer's "Notice to Commence Work" as stated in Section 107.2 of the Standard Specifications Revision of 2002 and complete the Work within the time limits given in the Special Provisions of this Contract.

Fourth: The Contractor will be bound to the Disadvantaged Business Enterprise (DBE) Requirements contained in the attached Notice (Additional Instructions to Bidders) and submit a completed Contractor's Disadvantaged Business Enterprise Utilization Plan by 4:30pm on the day of bid opening to the Contracts Engineer.

Fifth: That this offer shall remain open for 30 calendar days after the date of opening of bids.

Sixth: The Bidder hereby certifies, to the best of its knowledge and belief that: the Bidder has not, either directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of competitive bidding in connection with its bid, and its subsequent contract with the Department.

| | ctor, for itself, its successors and assigns, hereby agreement and thereby binds itself to all covenants, ontract Documents CONTRACTOR (Sign Here) (Signature of Legally Authorized Representative of the Contractor) (Print Name Here) (Name and Title Printed) |
|---|---|
| Your offer is hereby accepted. documents referenced herein. | This award consummates the Contract, and the |
| | MAINE DEPARTMENT OF TRANSPORTATION |
| Date | By: David A. Cole, Commissioner |
| (Witness) | |

| BOND # | |
|--------|--|
| | |

CONTRACT PERFORMANCE BOND

(Surety Company Form)

| KNOW ALL MEN BY THESE PRESENTS | S: That |
|---|---|
| | , as principal, |
| and | , |
| , , | vs of the State of and having a |
| | the Treasurer of the State of Maine in the sum |
| to be paid said Treasurer of the State of payment well and truly to be made, Prince | Maine or his successors in office, for which cipal and Surety bind themselves, their heirs, and assigns, jointly and severally by these |
| the Contract to construct Project Num | that if the Principal designated as Contractor in the Municipality of faithfully performs the Contract, then this it shall remain in full force and effect. |
| The Surety hereby waives notice of any alto of Maine. | teration or extension of time made by the State |
| Signed and sealed this | day of, 20 |
| WITNESSES: | SIGNATURES: CONTRACTOR: |
| Signature | |
| Print Name Legibly | Print Name Legibly SURETY: |
| Signature | |
| Print Name Legibly | Print Name Legibly |
| SURETY ADDRESS: | NAME OF LOCAL AGENCY: |
| | ADDRESS |
| | |
| TELEDIONE | |

| BOND# | |
|-------|--|
| | |

CONTRACT PAYMENT BOND

(Surety Company Form)

| KNOW ALL MEN BY THESE PRESENTS | S: That | | |
|---|-----------------------------------|-------------------------|---------------------|
| and the State | e of | | , as principal, |
| and | | | |
| a corporation duly organized under the laws | s of the State of | of | and having a |
| usual place of business in | | | • |
| as Surety, are held and firmly bound unto t | | | |
| and benefit of claimants as here | | , | |
| | | | |
| for the payment whereof Principal and Sura administrators, successors and assigns, joint | • | - | · |
| The condition of this obligation is such that the Contract to construct Project Number promptly sa | ber | in t | |
| labor and material, used or required by him said Contract, and fully reimburses the o obligee may incur in making good any defa be null and void; otherwise it shall remain in | obligee for all ault of said Prin | outlay and ncipal, then | l expense which the |
| A claimant is defined as one having a c Subcontractor of the Principal for labor, ma use in the performance of the contract. | | | • |
| Signed and sealed this da | av of | | 20 |
| WITNESS: | SIGNATURI | | |
| | CONTRACT | ſOR: | |
| Signature | ••••• | | |
| Print Name Legibly | | | |
| | SURETY: | | |
| Signature | | | |
| Print Name Legibly | | | |
| SURETY ADDRESS: | NAME OF L | | |
| | | | |
| TELEBRIONE | | | |
| TELEPHONE | | | ••••• |

General Decision Number ME030006 09/19/2003 ME6

Superseded General Decision Number: ME020006

State: Maine

Construction Type: Heavy

County: Cumberland County in Maine.

HEAVY CONSTRUCTION PROJECTS (Includes Sewer and Water Line

Construction Projects)

Modification Number

Publication Date

0

06/13/2003

1

09/19/2003

BOIL0029-003 10/01/2002

Power equipment operators:

Truck drivers:

Backhoes.....\$ 13.75

Bulldozers.....\$ 11.25

Excavators.....\$ 13.79

Loaders.....\$ 10.95

Dump.....\$ 9.50

| | Rates | Fringes |
|---------------------------|----------|---------|
| Boilermaker | \$ 25.08 | 12.41 |
| * ELEC0567-003 06/01/2003 | | |
| | Rates | Fringes |
| Electrician | \$ 23.88 | 10.27 |
| SUME2000-005 10/24/2000 | | |
| | Rates | Fringes |
| Laborers: Unskilled | \$ 12.43 | . 95 |

1.42

1.31

1.86

1.22

.89

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

In the listing above, the "SU" designation means that rates listed under the identifier do not reflect collectively bargained wage and fringe benefit rates. Other designations indicate unions whose rates have been determined to be prevailing.

WAGE DETERMINATION APPEALS PROCESS

- 1.) Has there been an initial decision in the matter? This can be:
- * an existing published wage determination
- * a survey underlying a wage determination
- * a Wage and Hour Division letter setting forth a position on a wage determination matter
- * a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations

Wage and Hour Division

U.S. Department of Labor

200 Constitution Avenue, N.W.

Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator

U.S. Department of Labor

200 Constitution Avenue, N.W.

Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an

interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board

U.S. Department of Labor

200 Constitution Avenue, N.W.

Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

END OF GENERAL DECISION

CASCO BAY BRIDGE

ENHANCEMENT PROJECT

PORTLAND/SOUTH PORTLAND – CUMBERLAND COUNTY PIN 009025.20

SECTION 2

Pin 9025.20 Portland-South Portland May 14, 2004

SPECIAL PROVISION

SECTION 102 BIDDING (PRE-BID SITE VISIT)

The Department will make a time slot available to the contractor for gaining access to the bridge to review the actual conditions of the work. This visit will be made to only those contractors who are qualified to bid as a prime bridge contractor. Sub-contractors will need to gain access with one of the primes that intends to bid on this project. Times will be scheduled on June 8 and 9, 2004, from 8:00 AM to 4:00 PM in 2 hour blocks. A contractor will only be given one time slot and they will be given on a first come first serve basis. Contractors will be limited to six (6) people on the site visit, including any subcontractor representatives. The contractor will need to submit the names of those people attending the site visit at least one (1) day prior to the visit. Arrangements for the visit can be made through either Aurele Gorneau or Paul Pottle by calling 207-624-3420.

The contractor may ask questions during the visit, but none of the answers provided can be interpreted to modify the contract documents, unless a formal response is requested in writing and an addendum is issued.

Prime contractors are strongly encouraged to sign up for one of the slots and do the site visit prior to submitting a bid.

SPECIAL PROVISION SECTION 104 BRIDGE COORDINATION

<u>104.01 Description</u>: The Casco Bay Bridge is a unique transportation structure and has several special requirements that must be met in order to work on the structure. Both vehicle and vessel traffic is extremely important to the surrounding communities and businesses and it can not be disrupted without a carefully developed and implemented traffic control plan. Security around the bridge is also very important and an approved access plan must be followed by all construction personal.

The following information outlines requirements for completing the work and access to and around the various work areas on the bridge. Following these requirements are several documents that outline lockout/tag out procedures and Coast Guard notification that must be followed when work activities have an impact on the operation of the bridge.

- 1. Parking Due to limited space on and around the bridge, the contractor will need to make arrangements with the local municipalities or private land owners to meet their total parking needs. There is a small area under the bridge on the Portland side of the river that can accommodate either a few vehicles or very limited staging. This area is controlled by a gate and will be gated throughout the entire construction period. The contractor will be required to coordinate the use of this area with the Bridge Maintenance Supervisor, so as not to interfere with the day to day operations and maintenance of the Bridge. The Contractor will be provided with one parking spot in the service vehicle lane located on the bridge near the operator's tower. This spot can be used for deliveries and/or vehicle parking for one vehicle during times when the contractor is on site working.
- 2. Staging Due to limited space, on and around the bridge, the contractor will need to make arrangements with the local municipality or private land owners to meet their staging needs. The contractor may maintain a small field office in the maintenance area for their own use. This area will also be the location of the Department's field office.
- 3. Use of facilities Contractor should be aware that the Department will not make its restroom facilities or other amenities available to the contractor for use. The contractor will need to supply their own restroom facilities, drinking water, electricity and phone service. Since space is very limited, the tops of the dolphins may be used for storage of equipment and material and fed to the work areas. When moving people, tools and equipment through the facility extreme care will be necessary to protect facility equipment and surfaces. The contractor will be required to restore any damage or wear and tear to the existing facility to a condition equal to or better than when the work began.
- 4. Time Delays The Contractor should take notice that the bridge is opened on the average of 60 times per month. In accordance with the attached procedures, each opening will require the work to be immediately secured and all workers to gather at a pre-determined location and remain there until the bridge is back in its normally closed position. No additional extensions of time will be issued for these delays; they should be anticipated in the Contractor's schedule.

5. Lane Closures/Traffic Control – The Contractor will be allowed to close a single lane on the bridge with proper notification and adherence to Section 652 – Maintenance of Traffic of the State of Maine Department of Transportation Standard Specifications, revision of December 2002. Closures will be allowed from 9:00 a.m. to 3:00 p.m. and from 9:00 p.m. to 5:00 a.m., Monday through Friday and must be scheduled at least two (2) weeks in advance and approved by the Department's Project Manager. Should lane closures affect the ability of the bridge to open, then the Contractor must also comply with procedures and notifications set forth by the Coast Guard.

The Contractor may also need to close both lanes of traffic in the same direction in order to place material and equipment into the Machinery area. This activity will be restricted to the hours from 9:00 p.m. to 5:00 a.m., Monday thru Friday and will require that the Contractor implement a detour plan that is submitted as part of an overall Traffic Control Plan, and will require at least three (3) weeks notice in advance and approved by the Department's Project Manager. Should the closure affect the ability of the vessels to move freely through the bridge, then the Contractor must also comply with procedures and notifications set forth by the Coast Guard. The Contractor is being made aware that there are procedures that are currently being used by both Portland and South Portland for detours and that those can be an option at the contractors expense.

The Contractor shall submit a Traffic Control Plan (TCP) in accordance with Section 652.33 – Submittal of Traffic Control Plan. This TCP shall meet, at a minimum, all items specified under Section 652 – Maintenance of Traffic. Along with the TCP, the contractor shall develop a public notification plan, which will provide for media (both newspaper and radio) notification of all bridge closures that will either delay the movement of traffic or detour traffic from crossing the bridge. Names and contact numbers for the local communities and those involved with shipping traffic has been provided and should be included in all notifications. The TCP will be shared with the local communities and all comments shall be addressed prior to finalizing the plan.

- 6. Bridge Operation It is anticipated that there may be work activities that would delay the opening of the bridge or block the channel, until the activity can be completed or secured. The Contractor must review all of the activities envisioned for this project and make proper notification to the Department, the Coast Guard and the shippers with regard to these activities. Failure to do so may cause work to be suspended at the contractor's expense until proper authorization can be received.
- 7. Security Plan Access to the Casco Bay Bridge will be controlled at all times. The Contractor will be responsible for appointing a single point of contact person who will interact with the Department's bridge personnel and all contractor, sub-contractor and supplier personnel. This person will be responsible for granting access to the bridge for all non-MDOT personnel and communicating those clearances to the Department's bridge personnel.

The contractor will develop an Access Plan, for review and approval by the Department which will be used during construction. As a minimum, the contractor will provide either a security guard who would be responsible for admitting workers into the bridge structure or a key card system with an electronic lock that can be issued to workers who have been granted clearance. The doors to the bridge will remain locked at all times and if a security guard is used, they would be present at any time the Contractor needs access to any point on the bridge.

Should a key card system be used, the system should use an electric card identifier and adding and deleting numbers would be the responsibility of the Department's bridge personnel and would be coordinated through the contractors single point of contact person. Employees no longer working on the project will have their codes deactivated as soon as possible. Visitor cards would only be available through the construction resident and must be returned each day. All contractor personnel will have an identification card (Key Card) to gain access to the bridge.

Access to all areas of the bridge through external doors will be controlled by the method selected by the contractor. At no time shall the contractor unlock or cause to be held open, any door at any level that grants access to the bridge structure.

<u>104.02</u> <u>Method of Measurement:</u> Bridge Coordination shall be paid for as a lump sum, complete in conformance with these specifications, the contract drawings or as directed and accepted by the Project Manager.

104.03 Basis of Payment: Payment will be made at the contract unit price per lump sum for all Work completed and accepted, which price and payment thereof shall constitute full compensation for all labor materials, equipment, expenses and incidentals for completing the work. Payment will be made under:

Pay Item Pay Unit

104.10 Lump Sum



Maine Department Of Transportation Lockout/ Tagout Procedures For The Casco Bay Bridge In Portland-So Portland

1/98 11/99 11/0

Maine Department of Transportation

Bridge Maintenance Division PO Box 1940 Portland, Maine 04104

A red restricted box with breakable

authorized employees.

which consists of 36 keyed alike padlocks for multiple lockouts by one individual, a lockbox to put that key in, and 10 keyed different padlocks for individualized locking on the lock box for

The Lockout Center is located in the MCC room east wall

ockout Center:

glass has the restricted keys to open all locks in case of an authorized employee leaving the site without unlocking. This is only to be broken after verification that the *authorized*

contacted. A check of the site of lockout will be made prior to

emoving his/her lock. Written documentation is required and

Notification to the employee is to be made that his lock has been

emoved prior to him/her returning on site.

This procedure will be adjusted as needed and evaluated yearly.

forms are on site in the MCC Room Lockout Center

employee has left the site and reasonable attempts have been made to contact him/her, and the Bridge Supervisor has been

equired in all instances if equipment has been worked on or

Bill Johnson Bridge Maintenance Supervisor

se:

To establish a program and utilize procedures for affixing propriate lockout devices or tagout devices to energy isolating vices, (Motor Control Center Buckets and circuit breakers) and to erwise disable the equipment to prevent unexpected ergization, startup, or release of stored energy. in order to event injury to our employees.

unpliance With This Program:

All employees are required to comply with the restrictions d limitations imposed upon them during the use of lockout. Igout devices will be used in conjunction will locks. Never use ag alone. The *authorized employees* are required to perform the skout in accordance with this procedure. All employees, upon serving a machine or piece of equipment which is locked out to rform servicing or maintenance shall not attempt to start, ergize or use that machine or equipment.

by employee purposely violating the above statement will be minated. The authorized employees will be the Drawbridge aintenance Crew 8602 as they are trained. Bill Johnson, Tom ackhouse, Hank Wernau, Dave Shay and Chris Coreau. All ntractors on site will be required to have their own lockout occdured meeting OSHA standards and must follow MDOT

quence Of Lockout:

aintenance is required on a machine or equipment and that the achine or equipment must be shut down and looked out to arform the servicing or maintenance. Outside contractors will go in/out with the *effected employees* as they come and go. The *fected employees* are all Bridge Operator II's who have control the drawbridge function and are listed as follows: Ralph night, Richard Hale, Frances Carver, Wayne Harlow, George Plointe, Brent Hill, Ruth Thibedeau, Bonnie LaPointe and Ray oughlin. They can be notified in person, by the gai-tronics eaker system on the bridge, or by our hand held walkie-talkies. It was the hand held walkie-talkies you must put the base radio on an or give the operator II that is on duty another portable alkie-talkie on channel 1 our maintenance channel. When cluipment.

uthorized Employee:

The *authorized* employee shall refer to the Maine Department Transportation energy sources listed below to identify the type and magnitude of the energy that the machine or equipment ilizes, shall understand the hazards of the energy, and shall now the methods to control the energy, and to report numediately to the supervisor if any exposure exists.

nergy Sources:

The machinery that functions the Casco Bay Drawbridge uses

neater in the south maintenance access, street level. This bucket is Power Center) in the South maintenance entrance north wall to a 30 KVA Transformer on the north wall also that converts to auxillary drive back ups and 1 empty bucket that had power for an 480 volts three phase. Each piece of machinery is controlled by an electric "bucket" which permits lockout of each item in the to power 240 volts single phase to the Ricwill Skin Trace (water line heat). This panel supplies all building heat including one controlled by a contactor, and when the motor drives function to lift the spans the contactor shuts HP-1 panel down, 1.45 KVA (480/3 phase) in the MCC to a 45 KVA Transformer on the east panel marked LP-1 also on the same east wall that powers all other functions along with 1 LP-3 30 KVA Mini Power Center (480/3 phase) in the MCC to the primary breaker in LP-3 (30 KVA Mini 208/120 and connects back to LP-3 panel at the secondary machinery brakes, 4 master motor drives, 4 slave motor drives, 4 oower to the bridge below and including 1 HP-1 (480/3 phase) in the MCC that feeds to a 480/277 heat panel marked HP-1on the east wall and branches to a 25 KVA Transformer on the north wall wall under the lockout center that converts down to a 208/120 breaker. I Main Buss Disconnect that controls all buckets except HP-1, LP-1 and LP-3 mentioned above, 6 traffic gates, 2 There are 46 buckets as listed: 1 Service Main that controls all Motor Control Center (referred to as the MCC) on the third floor pedestrian gates, 4 spanlocks, 4 taillocks, 8 motor brakes, air compressor.

Lockout Theory:

The individual buckets in the MCC room control the 480 volt 3 phase power to each piece of equipment as listed on the bucket. Locking out a bucket will stop power to the piece of equipment but not power to the limit switches or any other source of power that might be contained in the unit such as electrical receptacles heat tape and heaters. Power that reads positioning of the equipment is 120 volts and is located in the Programable Logic Controller (PLC) on the street level in the kitchen area with four breakers on the left of the cabinet. These four breakers control limit readings from the equipment to the control console on the first floor (tower). There is also a circuit breaker in the main panel LP-1 that controls these four breakers. When switching off any of these breakers the red traffic lights automatically come on so these lights must be shut of at the main control panel circuit # 30 & 31.

Electrical Panel Lockouts:

Panel HP-1 is the heating panel and is 480/277 volts and can be locked out completely at the M.C.C. at the specified bucket HP-1 or individually at the breaker control heating panel located in the M.C.C. room on the east wall to the left of the main panel. This is the only heating panel on the bridge and has a circuit directory in the panel.

The Main Panel LP-1 208/120 volt, is fed from the 45 KVA

transformer which controls the electrical functions on the north and a few on the south piers and can be locked out completely at the MCC at the specified bucket transformer feeder 45 KVA or individually at the circuit breaker panel on the east wall MCC room to the right of the heat breaker panel HP-1. Each item is listed on the circuit directory in

Panel LP-3 is a 30 KVA Mini Power Center 208/120 volt and is fed from the MCC to a 30 KVA transformer in the south maintenance building, top floor, which controls most south side electrical functions and can be locked out at the MCC at the specified bucket LP-3 or individually at the circuit breaker panel located in the south pier access building on the top floor east wall. Each item is listed on the circuit directory in the panel.

Casco Bay Bridge Lockout:

Disconnect to prevent bridge function and injury to employees and contractors on site. Equipment can be slave drive motors. This lockout procedure will work on all equipment testing except testing of the drive themselves. The controls on the bridge allow independent other machinery functions; spanlocks, taillocks, motor drives and traffic gates can be functioned only in a bridge When any maintenance of equipment, inspections or working in the pit areas you must lock out the Main Buss worked on in this mode but testing is not possible due to complete 480 3 phase power is locked out to all machinery on the drawspan. To test equipment always lockout the master and slave motor drive buckets(two buckets) and on the bridge leaf you are working on. In the instance of working or testing the machinery brakes you would lock out the two motor brake buckets along with the master and testing without sequence on motor brakes, machinery one machinery brake bucket (which controls both brakes) brakes, pedestrian gates and auxillary drive motors. All operation sequence which always has to stop traffic.

When testing equipment where a lockout device has to be removed, lockout other equipment, remove employees where possible, remove the lockout to only the machine being tested, energize and proceed with testing then deenergize and reapply lockout to continue servicing if not completed. When service is complete check area around machine to ensure that nonessential items have been removed and that the equipment components are operationally intact. Check the work area to ensure that all employees have been safely positioned or removed from the area. Verify to the affected employees(Bridge Operators), that the controls are off. Remove all lockout devices and reenergize the equipment. A test opening is



Rules For Outside Contractors on Site at the Casco Bay Bridge

All contractors working on site at the Casco Bay Bridge must have knowledge of all lockout / tag out procedures as listed in the OSHA Regulations. They are also required to have knowledge of the Maine Department of Transportation's site specific lockout tag out program at the Casco Bay Bridge as posted on site. When many employees from a single contractor are on site, we require one lead person who is on site overseeing the project, to become the sole responsible person for his employees and subcontractors and have communication to our Bridge Operators. This lead person will be the first and last on site and report to the Bridge Operators on the procedure for the day. At that time they will sign in with the information requested on the contractor sign in sheet and will be issued a portable radio for direct communication with the operators.

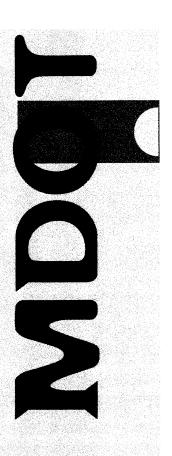
The Bridge Operator's sole responsibility is for the safe and complete operation of a bridge opening. When the bridge operator is informed of a pending bridge opening, the Bridge Operator will contact the lead person and inform him of the approximate time frame of events. These bridge openings are requested from the shipping industry when they are approaching the bridge from either direction, and the operator predicts as best as he can as to the time of the call for the opening by the ships. The United States

Coast Guard who regulate the shipping channels and this draw bridge, require the draw bridge shall open immediately upon request. When work requires any delay or channel encroachment, the work must be scheduled through the U.S. Coast Guard in writing as explained in the U.S. Coast Guard Bridge Administration Program By Direction of the Commander, First Coast Guard District, listed as General Construction Requirements.

coast Guard who regulate the shipping channels and this draw cridge, require the draw bridge shall open immediately upon equest. When work requires any delay or channel encroachment, he work must be scheduled through the U.S. Coast Guard in riting as explained in the U.S. Coast Guard Bridge dministration Program By Direction of the Commander, First coast Guard District, listed as General Construction Requirements. When an opening is expected, the lead person representing the attside contractor will gather their employees at the designated rea, notify the bridge operator they are ready, and unlock their ck and remove their tag. All employees and subcontractors of other him stay in their designated area for the bridge opening and annot leave the draw house. If the contractor has people outside the draw house they must stay at their vehicle or behind the edestrian gate for their safety. Stepping over the concrete barrier ago around the pedestrian gate is prohibited due to an opening ith a drop of 50 feet occurs when the bridge opens in this area. The uring a bridge opening only authorized personnel are allowed on the tower level during an opening unless accompanied by someone om the Maine DOT Bridge Department.

Any Questions on this policy please contact me, William Johnson or reached at 207-797-3766 or numerical pager at 207-821-5432 outside contractor will gather their employees at the designated area, notify the bridge operator they are ready, and unlock their lock and remove their tag. All employees and subcontractors under him stay in their designated area for the bridge opening and cannot leave the draw house. If the contractor has people outside the draw house they must stay at their vehicle or behind the pedestrian gate for their safety. Stepping over the concrete barrier to go around the pedestrian gate is prohibited due to an opening with a drop of 50 feet occurs when the bridge opens in this area. During a bridge opening only authorized personnel are allowed on the tower level during an opening unless accompanied by someone from the Maine DOT Bridge Department.

Bridge Supervisor with the Maine DOT Bridge Department. I can be reached at 207-797-3766 or numerical pager at 207-821-5432



Maine DOT Bridge Maintenance

P.O. Box 1940

Portland ME 04104

Bill Johnson Bridge Maintenance Supervisor

Documentation Form of Personal Lock Removal By Other Authorized Employee

1.) Verify that employee has left site.

Yes

No

2.) Attempts have been made to reach employee. List attempts below.

Yes

No

3.) Site inspection of lockout area is performed.

Yes

No

4.) Bridge Supervisor or crew leader been informed.

Yes

No

If you answered yes to all the above questions supervisory personnel may break glass in the red restricted box for access to the keys to unlock that persons lock and inform that person before returning on site that his lock was removed by others. Supervisory personnel hold restricted keys off site till glass in restricted box is replaced.

List attempts to notify employee here and any other pertinent information.



Phone: 797-3766

Fax: 883-3806



P.O. Box 1940 Portland ME 04104

Bill Johnson Bridge Maintenance Supervisor 797-3766

Training and Communication in Lockout/Tagout on the CascoBay Bridge in Portland So Portland Maine

The Maine Department of Transportation shall provide training to ensure that the purpose and function of the energy control program are understood by employees and that the knowledge and skills required for the safe application, usage, and removal of the energy controls are acquired by the employees. The training shall include the following:

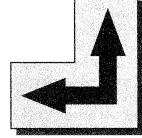
Each authorized employee shall receive training in the recognition of applicable hazardous energy sources, the type and magnitude of the energy available in the work place, and the methods and means necessary for energy isolation and control.

Each affected employee shall be instructed in the purpose and use of the energy control procedure. All other employees whose work operations are or may be in an area where energy control procedures may be utilized, shall be instructed about the procedure, and about the prohibition relating to attempts to restart or reenergize the equipment which are locked out.

Tags are to be used in conjunction with locks. Where this is a new facility all electrical control devices can be padlocked.

Retraining shall be provided for all authorized and effected employees whenever there is a change in their job assignments, a change in equipment or function that presents a new hazard, or when there is a change in energy control procedures.

Additional retraining shall also be conducted wherever a periodic inspection by an authorized employee other than the ones utilizing the energy control procedure reveals inadequacies or the employer has reason to believe that there are deviations in the employees knowledge or use of the energy control procedures. The retraining shall reestablish employee proficiency and introduce new or revised control methods and procedures, as necessary. The employer shall certify that employee training has been accomplished and is being kept up to date. This is the certification for training on this date to the following employees:





Commander First Coast Guard District

408 Atlantic Avenue Boston, MA 02110-3350 Staff Symbol: obr Phone: (617) 223-8364 Fax: (617) 223-8026 Email: jmcdonald@d1.uscg.mil

16594 March 25, 2004

Mr. Paul D. Pottle **Project Manager** Maine Department of Transportation 16 State House Station Augusta, ME 04333-0016

Dear Mr. Pottle:

We have completed our review of the letter you submitted dated March 16, 2004, for the safety and security project at the Casco Bay Bridge, mile 1.5, across the Fore River, in Maine.

Before we can authorize any work over the waterway we must have a copy of the contractor's work schedule, emergency contact numbers, and a graphic timeline sequence of operation.

I have enclosed our standard requirements for construction operations to assist you in preparation of the construction planning. You must comply with all the conditions in the attached enclosure (1) entitled "General Construction Requirements." It contains the most frequently required stipulations for bridge construction.

All stipulations in enclosure (1) must be followed in their entirety for all work on, over, or affecting the waterway in any manner. These stipulations are based on the facts you have provided presently; however, additional requirements may be imposed if additional information or conditions not anticipated warrant.

A written request must be submitted to the Coast Guard 30 days prior to any anticipated scheduled bridge closures for this project. A temporary deviation from the drawbridge operation regulations, if approved, will be published in the Federal Register.

If you have any questions, please contact me at (617) 223-8364.

Sincerely,

John W. McDonald

First Coast Guard District

Bridge Management Specialist

By direction of the District Commander

(1) General Construction Requirements Encl:

Copy: Commanding Officer, Coast Guard Marine Safety Office Portland

U.S. Coast Guard Bridge Administration Program GENERAL CONSTRUCTION REQUIREMENTS

- 1. All waterway closures, channel restrictions, or vertical clearance reductions must be requested in writing, 60 days in advance. Requests to temporarily deviate from the **Drawbridge Operation Regulations** (bridge operating schedule) must be received in writing at least 60 days in advance of the date of the intended change, unless the repairs are determined to be necessary vital repairs that must be performed with due speed to assure the safe reliable continued operation of the bridge. All submissions to the Coast Guard for review and approval must first be approved by the owner of the bridge or their authorized agent. All submissions must be sent to the First Coast Guard District, Bridge Branch Office.
- 2. A copy of the contractor's construction plans, schedule, and sequence of operations, preferably in time line graphic format, including daily hours of operation, all anticipated bridge or channel closures, location of work barges during working and non-working hours, must be submitted to this office for approval. All bridge construction/repair requests must be submitted at least 30 days prior to commencement of any work. A drawing/plan of the entire project area must be included in all submissions requesting construction approval depicting the following: (1) The waterway and existing/proposed bridges. (2) The location of work barges, anchors lines during the various phases of the project. (3) A detailed drawing of scaffolding/netting indicating the location during working hours and off hours. All vertical clearance reductions below low steel or concrete under the bridge as a result of the use of scaffolding must be clearly detailed and measured in feet.
- 3. Emergency 24 hour telephone numbers for all responsible individuals for this project must be submitted to this office before any phase of construction begins. Any changes in personnel or telephone numbers should be immediately forwarded to this office.
- 4. All work barges placed in the waterway must be lighted with constant burning white lights on all four corners. The barge operator is required to comply with all provisions of the Navigation Rules International-Inland, regarding the use of work barges or floating equipment in t he waterway. C opies a re a vailable from the U.S. Go vernment B ookstore, Thomas P. O'Neil Building, 10 Causeway Street, Boston, Massachusetts, 02222. Telephone (617) 720-4180.
- 5. VHF-FM marine radios set to the bridge communication channels 16/13 or the designated channel for the bridge must be maintained at the project site monitored by the supervisor in charge. Additional marine radios monitoring the above channels must also be maintained at the main control of any floating equipment or barges on station.
- 6. The placement of work barges in the navigable channel shall be done in a manner so as to provide a minimum horizontal clearance reduction at all times. Only one draw of a bridge at a time may be blocked by work barges. Work barges must move out of the navigable channel upon the request from the master of any vessel that determines the full channel width is needed to safely transit through the bridge. Work barges must not remain in the navigable channel at night unless Coast Guard approved work is scheduled and ongoing. Work barges must be moved outside the navigable channel at all times day or night when no work is scheduled or ongoing. Work barges held in place by anchor lines must be marked by lighted anchor buoys.

- 7. No changes to the horizontal or vertical clearance of the bridge or any bridge span may be made as part of this construction project without prior Coast Guard approval.
- 8. Welding and burning must cease upon approach of a vessel and shall not start again until the vessel has passed the bridge. Preventive measures must be taken to prevent any hot work, debris, or construction material from entering the waterway. This includes sandblasting material, paint, and any concrete work by-products.
- 9. If permanent bridge navigational lighting can not be maintained operational during any phase of this project, temporary battery/power lights must be installed at the same locations. These temporary lights must be visible for a distance of 2,000 yards on 90% of the nights of the year. Generally, a lamp of 20 footcandles will meet these requirements. Plans for temporary lighting shall be submitted to this office for written approval. Deviations from the approved temporary lighting shall be permitted only upon written authorization from this office.
- 10. Bridge protective fenders shall not be constructed or rebuilt with any metal surfaces on the rubbing face of the fender system. All bolts, spikes, or other metal fastening devices must be countersunk. Metal splicing plates, if used, shall be mounted on back of outer wales.
- 11. All piles within the footprint of the bridge project, that are not being used in the new or repaired fender shall be extracted or cut off at the mud line. Upon completion of the fender repairs a bottom sweep is required to determine if any piles or construction debris are present in the waterway. A written certification that the entire footprint of the bridge project is clear of all piles and construction debris must be submitted to the Coast Guard from the owner of the bridge.
- 12. During the progress of work should any debris or equipment enter the waterway and become a hazard to navigation, immediate notice shall be given to the Coast Guard and the object removed as soon as possible. Until removal can be effected, the obstruction shall be properly marked.
- 13. Spillage of oil and hazardous substances is specifically prohibited by <u>Section 311 of the Clean Water Pollution Act</u>, as amended. Approved spill containment equipment and absorbent material must be located at the project site in the event of a spill into the waterway or the shoreline. The Coast Guard must be notified immediately at 1-800-424-8802.
- 14. The bridge owner is responsible to ensure that channel depths are not affected by this work. Upon request of the Coast Guard or Corps of Engineers, the bridge owner/contractor shall provide the necessary equipment and personnel to determine the presence of any suspected obstructions in the waterway.
- 15. This approval may be revoked and/or civil penalties imposed for failure to ensure that the above listed stipulations are adhered to or if work is determined to hazard or impair navigation.



United States Coast Guard Bridge Branch 40H Allantic Avenue Boston Ma 02110-3350 Staff Symbol obt Phone 617 223-8364 FAX: 617 223-8026



16594 Fore R/1.5/ME. January 5, 2000

Mr. Bill Johnson
Bridge Maintenance
Maine Department of Transportation
P.O. Box 1940
Portland, ME. 04104

Dear Mr. Johnson,

This is in response to your Fax dated January 5, 2000, regarding motor repair at the Casco Bay Bridge, mile 1.5, across the Fore River between Portland and South Portland, Maine. Answers to your questions:

- Emergency repairs you should call local Coast Guard Unit and this office. They often fail
 to notify us until after the fact. We need to approve and coordinate closures, including
 notification in the Local Notice to Mariners if time permits or a safety marine broadcast.
- 2. All work on bridges must be approved by this office. Local Coast Guard approval is not enough, coordination is recommended, but final approval must be obtained from this office. Only this office has the jurisdiction to approve work on bridges.
- 3. 30 days notice is required for most major work especially when the operation of the bridge is effected or clearances reduced by scaffolds and or barges. 14 days is ok for work such as you are now proposing that will not effect the bridge operation. Give as much time as you can, the more the better.
- 4. When the bridge operation is effected all due speed (24 hours/7 day week) must be exercised to restore service. That would include machine shops and motor repair shops under your contract.

If you have any questions, please contact me at (617) 223-8364.

Sincerely.

John W. McDonald

First Coast Guard District

Bridge Management Specialist

By direction of the District Commander

Pin 9025.20 Portland-South Portland May 14, 2004

SPECIAL PROVISION

SECTION 105 SUBMITTALS

The contractor will be required to make submissions on all aspects of their work. Submittals will not only cover those areas clearly identified in specific specifications, but they will also include, but not be limited to Erection/Installation Plans; Design/Build Items; Products; Procedures; Personnel; Schedules; Changes: and any area that will help clarify what will be happening on the bridge at any given time. The cost associated with doing this will be considered incidental to the other work items.

Pin 9025.20 Portland-South Portland May 14, 2004

SPECIAL PROVISION

SECTION 107 TIME (Contract Time)

All work shall be completed by December 24, 2004, which is the specified completion date for this contract.

PIN 9025.20 Portland-South Portland May 14, 2004

SPECIAL PROVISIONS SECTION 107.9 TIME

(Project Closeout)

The following is in addition to the requirements of Section 107.9.

The Contractor shall maintain, at the site, a set of Drawings, on which shall be recorded accurately as the work progresses, the actual dimensions and grades of all his work, indicating thereon all variations from the Contract Drawings. The record shall include the work of all Subcontractors. Record drawings shall be reviewed by the Resident, and the Contractor shall make all necessary changes according to the Resident's review.

Prior to final acceptance of the Work, all recorded data shall be transferred by the Contractor, to a complete set of reproducible record drawings, in ink or photolitho reproductions of the original of the Contract Drawings showing "As-Built" conditions. Reproductions shall be 3 mil mylar, single matted, as approved by the Department.

SPECIAL PROVISION

(Consolidated Special Provisions)

SPECIAL PROVISION SECTION 101 CONTRACT INTERPRETATION

101.2 Definitions - Closeout Documentation

Replace the sentence "A letter stating the amount..... DBE goals." with "DBE Goal Attainment Verification Form"

SPECIAL PROVISION SECTION 102 DELIVERY OF BIDS

(Location and Time)

102.7.1 Location and Time Add the following sentence "As a minimum, the Bidder will submit a Bid Package consisting of the Notice to Contractors, the completed Acknowledgement of Bid Amendments & Submission of Bid Bond Validation Number form, the completed Schedule of Items, 2 copies of the completed Agreement, Offer, & Award form, a Bid Bond or Bid Guarantee, and any other Certifications or Bid Requirements listed in the Bid Book."

SPECIAL PROVISION SECTION 103 AWARD AND CONTRACTING

103.3.1 Notice and Information Gathering Change the first paragraph to read as follows: "After Bid Opening and as a condition for Award of a Contract, the Department may require an Apparent Successful Bidder to demonstrate to the Department's satisfaction that the Bidder is responsible and qualified to perform the Work."

SPECIAL PROVISION SECTION 104 GENERAL RIGHTS AND RESPONSIBILITIES

Delete the entire Section 104.5.9 and replace with the following:

<u>104.5.9 Landscape Subcontractors</u> The Contractor shall retain only Landscape Subcontractors that are certified by the Department's Environmental Office Landscape Unit.

SPECIAL PROVISION SECTION 105 GENERAL SCOPE OF WORK

Delete the entire Section 105.6 and replace with the following:

105.6.1 Department Provided Services The Department will provide the Contractor with the description and coordinates of vertical and horizontal control points, set by the Department, within the Project Limits, for full construction Projects and other Projects where survey control is necessary. For Projects of 1,500 feet in length, or less: The Department will provide three points. For Projects between 1,500 and 5,000 feet in length: The Department will provide one set of two points at each end of the Project. For Projects in excess of 5,000 feet in length, the Department will provide one set of two points at each end of the Project, plus one additional set of two points for each mile of Project length. For non-full construction Projects and other Projects where survey control is not necessary, the Department will not set any control points and, therefore, will not provide description and coordinates of any control points. Upon request of the Contractor, the Department will provide the Department's survey data management software and Survey Manual to the Contractor, or its survey Subcontractor, for the exclusive use on the Department's Projects.

105.6.2 Contractor Provided Services Utilizing the survey information and points provided by the Department, described in Subsection 105.6.1, Department Provided Services, the Contractor shall provide all additional survey layout necessary to complete the Work. This may include, but not be limited to, reestablishing all points provided by the Department, establishing additional control points, running axis lines, providing layout and maintenance of all other lines, grades, or points, and survey quality control to ensure conformance with the Contract. The Contractor is also responsible for providing construction centerline, or close reference points, for all Utility Facilities relocations and adjustments as necessary to complete the Work. When the Work is to connect with existing Structures, the Contractor shall verify all dimensions before proceeding with the Work. The Contractor shall employ or retain competent engineering and/or surveying personnel to fulfill these responsibilities.

The Contractor must notify the Department of any errors or inconsistencies regarding the data and layout provided by the Department as provided by Section 104.3.3 - Duty to Notify Department If Ambiguities Discovered.

105.6.2.1 Survey Quality Control The Contractor is responsible for all construction survey quality control. Construction survey quality control is generally defined as, first, performing initial field survey layout of the Work and, second, performing an independent check of the initial layout using independent survey data to assure the accuracy of the initial layout; additional iterations of checks may be required if significant discrepancies are discovered in this process. Construction survey layout quality control also requires written documentation of the layout

process such that the process can be followed and repeated, if necessary, by an independent survey crew.

105.6.3 Survey Quality Assurance It is the Department's prerogative to perform construction survey quality assurance may, or may not, be performed by the Department. Construction survey quality assurance is generally defined as an independent check of the construction survey quality control. The construction survey quality assurance process may involve physically checking the Contractor's construction survey layout using independent survey data, or may simply involve reviewing the construction survey quality control written documentation. If the Department elects to physically check the Contractor's survey layout, the Contractor's designated surveyor may be required to be present. The Department will provide a minimum notice of 48 hours to the Contractor, whenever possible, if the Contractor's designated surveyor's presence is required. Any errors discovered through the quality assurance process shall be corrected by the Contractor, at no additional cost to the Department.

105.6.4 Boundary Markers The Contractor shall preserve and protect from damage all monuments or other points that mark the boundaries of the Right-of-Way or abutting parcels that are outside the area hat must be disturbed to perform the Work. The Contractor indemnifies and holds harmless the Department from all claims to reestablish the former location of all such monuments or points including claims arising from 14 MRSA § 7554-A. For a related provision, see Section 104.3.11 - Responsibility for Property of Others.

SPECIAL PROVISION SECTION 106 QUALITY

<u>106.6 Acceptance</u> Add the following to paragraph 1 of A: "This includes Sections 401 - Hot Mix Asphalt, 402 - Pavement Smoothness, and 502 - Structural Concrete - Method A - Air Content."

Add the following to the beginning of paragraph 3 of A: "For pay factors based on Quality Level Analysis, and"

SPECIAL PROVISION SECTION 107 TIME

107.3.1 General Add the following: "If a Holiday occurs on a Sunday, the following Monday shall be considered a Holiday. Sunday or Holiday work must be approved by the Department, except that the Contractor may work on Martin Luther King Day, President's Day, Patriot's Day, the Friday after Thanksgiving, and Columbus Day without the Department's approval."

SPECIAL PROVISION SECTION 108 PAYMENT

108.4 Payment for Materials Obtained and Stored First paragraph, second sentence, delete the words "...Delivered on or near the Work site at acceptable storage places."

SPECIAL PROVISION SECTION 109 CHANGES

- 109.1.1 Changes Permitted Add the following to the end of the paragraph: "There will be no adjustment to Contract Time due to an increase or decrease in quantities, compared to those estimated, except as addressed through Contract Modification(s)."
- 109.1.2 Substantial Changes to Major Items Add the following to the end of the paragraph: "Contract Time adjustments may be made for substantial changes to Major Items when the change affects the Critical Path, as determined by the Department"
- 109.4.4 Investigation / Adjustment In the third sentence, delete the words "subsections (A) (E)"
- 109.7.2 Basis of Payment Replace with the following: "Equitable Adjustments will be established by mutual Agreement for compensable items listed in Section 109.7.3-Compensable Items, based upon Unit or Lump Sum Prices. If Agreement cannot be reached, the Contractor shall accept payment on a Force Account basis as provided in Section 109.7.5 Force Account Work, as full and complete compensation for all Work relating to the Equitable Adjustment."
- 109.7.3 Compensable Items Replace with the following: "The Contractor is entitled to compensation for the following items, with respect to agreed upon Unit or Lump Sum Prices:
 - 1. Labor expenses for non-salaried Workers and salaried foremen.
 - 2. Costs for Materials.
 - 3. A markup on the totals of Items 1 and 2 of this subsection 109.7.3 for home office overhead and profit of the Contractor, its Subcontractors and suppliers, and any lower tier Subcontractors or suppliers, with no mark-ups on mark-ups.
 - 4. Cost for Equipment, based on Blue Book Rates or leased rates, as set forth in Section 109.7.5(C), or the Contractor's Actual Costs.
 - 5. Costs for extended job-site overhead.

- 6. Time.
- 7. Subcontractor quoted Work, as set forth below in Section 109.7.5 (F)."

109.7.5 Force Account Work

C. Equipment

Paragraph 2, delete sentence 1 which starts; "Equipment leased...."

Paragraph 6, change sentence 2 from "The Contractor may furnish..." to read "If requested by the Department, the Contractor will produce cost data to assist the Department in the establishment of such rental rate, including all records that are relevant to the Actual Costs including rental Receipts, acquisition costs, financing documents, lease Agreements, and maintenance and operational cost records."

Add the following paragraph; "Equipment leased by the Contractor for Force Account Work and actually used on the Project will be paid for at the actual invoice amount plus 10% markup for administrative costs."

Add the following section;

"F. Subcontractor Quoted Work When accomplishing Force Account Work that utilizes Subcontractor quoted Work, the Contractor will be allowed a maximum markup of 5% for profit and overhead."

SPECIAL PROVISION SECTION 110 INDEMNIFICATION, BONDING, AND INSURANCE

Delete the entire Section 110.2.3 and replace with the following:

110.2.3 Bonding for Landscape Establishment Period The Contractor shall provide a signed, valid, and enforceable Performance, Warranty, or Maintenance Bond complying with the Contract, to the Department at Final Acceptance.

The bond shall be in the full amount for all Pay Items for work pursuant to Sec 621, Landscape, payable to the "Treasurer - State of Maine," and on the Department's forms, on exact copies thereof, or on forms that do not contain any significant variations from the Department's forms as solely determined by the Department.

The Contractor shall pay all premiums and take all other actions necessary to keep said bond in effect for the duration of the Landscape Establishment Period described in Special Provision 621.0036 - Establishment Period. If the Surety becomes financially insolvent, ceases to be licensed or approved to do business in the State of Maine, or stops operating in the United States, the Contractor shall file new bonds complying with this Section within 10 Days of the date the Contractor is notified or becomes aware of such change.

All Bonds shall be procured from a company organized and operating in the United States, licensed or approved to do business in the State of Maine by the State of Maine Department of Business Regulation, Bureau of Insurance, and listed on the latest Federal Department of the Treasury listing for "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies."

By issuing a bond, the Surety agrees to be bound by all terms of the Contract, including those related to payment, time for performance, quality, warranties, and the Department's self-help remedy provided in Section 112.1 - Default to the same extent as if all terms of the Contract are contained in the bond(s).

Regarding claims related to any obligations covered by the bond, the Surety shall provide, within 60 Days of Receipt of written notice thereof, full payment of the entire claim or written notice of all bases upon which it is denying or contesting payment. Failure of the Surety to provide such notice within the 60-day period constitutes the Surety's waiver of any right to deny or contest payment and the Surety's acknowledgment that the claim is valid and undisputed.

SPECIAL PROVISION SECTION 401 HOT MIX ASPHALT PAVEMENT

401.18 Quality Control Method A & B Make the following change to paragraph a. QCP Administrator; in the final sentence, change "...certified as a Plant Technician or Paving Inspector..." to "...certified as a Quality Assurance Technologist..."

401.201 Method A Under a. Lot Size, add the following; "Each lot will be divided into a minimum of four sublots for mix properties and five sublots for percent TMD."

SPECIAL PROVISION SECTION 402 PAVEMENT SMOOTHNESS

Add the following: "Projects to have their pavement smoothness analyzed in accordance with this Specification will be so noted in Special Provision 403 - Bituminous Box."

"402.02 Lot Size Lot size for smoothness will be 1000 lane-meters [3000 lane-feet]. A sublot will consist of 20 lane-meters [50 lane-feet]. Partial lots will be included in the previous lot if less than one-half the size of a normal lot. If greater than one-half the normal lot size, it will be tested as a separate lot."

SPECIAL PROVISION SECTION 502 STRUCTURAL CONCRETE

<u>502.0502</u> Quality Assurance Method A - Rejection by Resident Change the first sentence to read: "For an individual sublot with <u>test results failing to meet the criteria in Table #1, or if the calculated pay factor for Air Content is less than 0.80......"</u>

502.0503 Quality Assurance Method B - Rejection by Resident Change the first sentence to read: "For material represented by a verification test with test results failing to meet the criteria in Table #1, the Department will....."

502.0505 Resolution of Disputed Acceptance Test Results Combine the second and third sentence to read: "Circumstances may arise, however, where the Department may"

SPECIAL PROVISION SECTION 504 REINFORCING STEEL

504.18 Plates for Fabricated Members Change the second paragraph, first sentence from: "...ASTM A 898/A 898 M..." to "...ASTM A 898/A 898 M or ASTM A 435/A 435 M as applicable and..."

SPECIAL PROVISION SECTION 535 PRECAST, PRESTRESSED CONCRETE SUPERSTRUCTURE

<u>535.02 Materials</u> Change "Steel Strand for Concrete Reinforcement" to "Steel Strand." Add the following to the beginning of the third paragraph; "Concrete shall be Class P conforming to the requirements in this section. 28 day compressive strength shall be as stated on the plans. Coarse aggregate…."

535.26 Lateral Post-Tensioning Replace the first paragraph; "A final tension..." with "Overstressing strands for setting losses cannot be accomplished for chuck to chuck lengths of 7.6 m [25 ft] and less. In such instances, refer to the Plans for all materials and methods. Otherwise, post-tensioning shall be in accordance with PCI standards and shall provide the anchorage force noted in the Plans. The applied jacking force shall be no less than 100% of the design jacking force."

SPECIAL PROVISION SECTION 604 MANHOLES, INLETS, AND CATCH BASINS

604.02 Materials Add the following:

| "Tops and Traps | 712.07 |
|-------------------------------|---------|
| Corrugated Metal Units | 712.08 |
| Catch Basin and Manhole Steps | 712.09" |

SPECIAL PROVISION SECTION 605 UNDERDRAINS

605.05 Underdrain Outlets Make the following change:

In the first paragraph, second sentence, delete the words "metal pipe".

SPECIAL PROVISION SECTION 615 LOAM

615.02 Materials Make the following change:

Organic Content

Percent by Volume

Humus

"5% - 10%", as determined by Ignition Test

SPECIAL PROVISION SECTION 618 SEEDING

<u>618.01</u> <u>Description</u> Change the first sentence to read as follows: "This work shall consist of furnishing and applying seed" Also remove "and cellulose fiber mulch" from 618.01(a).

618.03 Rates of Application In 618.03(a), remove the last sentence and replace with the following: "These rates shall apply to Seeding Method 2, 3, and Crown Vetch."

In 618.03(c) "1.8 kg [4 lb]/unit." to "1.95 kg [4 lb]/unit."

618.09 Construction Method In 618.09(a) 1, sentence two, replace "100 mm [4 in]" with "25 mm [1 in] (Method 1 areas) and 50 mm [2 in] (Method 2 areas)"

618.15 Temporary Seeding Change the Pay Unit from Unit to Kg [lb].

SPECIAL PROVISION SECTION 620 GEOTEXTILES

620.03 Placement Section (c)

Title: Replace "Non-woven" in title with "Erosion Control".

First Paragraph: Replace first word "Non-woven" with "Woven monofilament". Second Paragraph: Replace second word "Non-woven" with "Erosion Control".

620.07 Shipment, Storage, Protection and Repair of Fabric Section (a)

Replace the third sentence with the following: "Damaged geotextiles, <u>as identified by the Resident</u>, shall be repaired immediately."

620.09 Basis of Payment

Pay Item 620.58: Replace "Non-woven" with "Erosion Control" Pay Item 620.59: Replace "Non-woven" with "Erosion Control"

SPECIAL PROVISION SECTION 621 LANDSCAPING

<u>621.0036 Establishment Period</u> In paragraph 4 and 5, change "time of Final Acceptance" to "end of the period of establishment". In Paragraph 7, change "Final Acceptance date" to "end of the period of establishment" and change "date of Final Acceptance" to "end of the period of establishment".

SPECIAL PROVISION SECTION 626 HIGHWAY SIGNING

626.034 Concrete Foundations Add to the following to the end of the second paragraph: "Pre-cast and cast-in-place foundations shall be warranteed against leaning and corrosion for two years after the project is completed. If the lean is greater than 2 degrees from normal or the foundation is spalling within the first two years, the Contractor shall replace the foundation at no extra cost."

SPECIAL PROVISION SECTION 637 DUST CONTROL

637.06 Basis of Payment Add the following after the second sentence of the third paragraph: "Failure by the Contractor to follow Standard Specification or Special Provision - Section 637 and/or the Contractor's own Soil Erosion and Pollution Control Plan concerning Dust Control and/or the Contractor's own Traffic Control Plan concerning Dust Control and/or visible evidence of excessive dust problems, as determined by the Resident, will result in a reduction in

payment, computed by reducing the Lump Sum Total by 5% per occurrence per day. The Department's Resident or any other representative of the Department reserves the right to suspend the work at any time and request a meeting to discuss violations and remedies. The Department shall not be held responsible for any delay in the work due to any suspension under this item. Additional penalties may also be assessed in accordance with Special Provision 652 - Work Zone Traffic Control and Standard Specification 656 - Temporary Soil Erosion and Water Pollution Control."

SPECIAL PROVISION SECTION 639 ENGINEERING FACILITIES

<u>639.04 Field Offices</u> Change the forth to last paragraph from: "The Contractor shall provide a fully functional desktop copier..." to "....desktop copier/scanner..."

SPECIAL PROVISION SECTION 652 MAINTENANCE OF TRAFFIC

652.3.5 Installation of Traffic Control Devices In the first paragraph, first sentence; change "Signs shall be erected..." to "Portable signs shall be erected..." In the third sentence; change "Signs must be erected so that the sign face..." to "Post-mounted signs must also be erected so that the sign face..."

652.8.2 Other Items Replace the last paragraph with the following: "There will be no payment made under any 652 pay items after the expiration of the adjusted total contract time."

SPECIAL PROVISION SECTION 656 TEMPORARY SOIL EROSION AND WATER POLLUTION CONTROL

656.5.1 If Pay Item 656.75 Provided Replace the second paragraph with the following: "Failure by the Contractor to follow Standard Specification or Special Provision - Section 656 and/or the Contractor's own Soil Erosion and Pollution Control Plan will result in a reduction in payment, computed by reducing the Lump Sum Total by 5% per occurrence per day. The Department's Resident or any other representative of the Department reserves the right to suspend the work at any time and request a meeting to discuss violations and remedies. The Department shall not be held responsible for any delay in the work due to any suspension under this item."

SPECIAL PROVISION SECTION 703 AGGREGATES

703.06 Aggregate for Base and Subbase Delete the first paragraph: "The material shall have..." and replace with "The material shall have a minimum degradation value of 15 as determined by Washington State DOT Test Method T113, Method of Test for Determination of Degradation Value (March 2002 version), except that the reported degradation value will be the result of testing a single specimen from that portion of a sample that passes the 12.5 mm [½ in] sieve and is retained on the 2.00 mm [No. 10] sieve, minus any reclaimed asphalt pavement used."

703.07 Aggregates for HMA Pavements Delete the forth paragraph: "The composite blend shall have..." and replace with "The composite blend, minus any reclaimed asphalt pavement used, shall have a Micro-Deval value of 18.0 or less as determined by AASHTO TP 58. In the event the material exceeds the Micro Deval limit, a Washington Degradation test shall be performed. The material shall be acceptable if it has a value of 30 or more as determined by Washington State DOT Test Method T 113, Method of Test for Determination of Degradation Value (March 2002 version) except that the reported degradation value will be the result of testing a single composite specimen from that portion of the sample that passes the 12.5mm [1/2 inch] sieve and is retained on the 2.00mm [No 10] sieve, minus any reclaimed asphalt pavement used."

703.22 Underdrain Backfill Material Change the first paragraph from "...for Underdrain Type B..." to "...for Underdrain Type B and C..."

SPECIAL PROVISION SECTION 709 REINFORCING STEEL AND WELDED STEEL WIRE FABIC

709.03 Steel Strand Change the second paragraph from "...shall be 12mm [½ inch] AASHTO M203M/M203 (ASTM A416/A416M)..." to "...shall be 15.24 mm [0.600 inch] diameter AASHTO M203 (ASTM A416)..."

SPECIAL PROVISION SECTION 712 MISCELLANEOUS HIGHWAY MATERIALS

Add the following:

<u>"712.07 Tops, and Traps</u> These metal units shall conform to the plan dimensions and to the following specification requirements for the designated materials.

Gray iron castings shall conform to the requirements of AASHTO M105, Class 30, unless otherwise designated.

Carbon steel castings shall conform to the requirements of AASHTO M103/M103M. Grade shall be 450-240 [65-35] unless otherwise designated.

Structural steel shall conform to the requirements of AASHTO M183/M183M or ASTM A283/A283M, Grade B or better. Galvanizing, where specified for these units, shall conform to the requirements of AASHTO M111.

<u>712.08 Corrugated Metal Units</u> The units shall conform to plan dimensions and the metal to AASHTO M36/M36M. Bituminous coating, when specified, shall conform to AASHTO M190 Type A.

712.09 Catch Basin and Manhole Steps Steps for catch basins and for manholes shall conform to ASTM C478M [ASTM C478], Section 13 for either of the following material:

- (a) Aluminum steps-ASTM B221M, [ASTM B211] Alloy 6061-T6 or 6005-T5.
- (b) Reinforced plastic steps Steel reinforcing bar with injection molded plastic coating copolymer polypropylene. Polypropylene shall conform to ASTM D 4101.
- 712.23 Flashing Lights Flashing Lights shall be power operated or battery operated as specified.
 - (a) Power operated flashing lights shall consist of housing, adapters, lamps, sockets, reflectors, lens, hoods and other necessary equipment designed to give clearly visible signal indications within an angle of at least 45 degrees and from 3 to 90 m [10 to 300 ft] under all light and atmospheric conditions.

Two circuit flasher controllers with a two-circuit filter capable of providing alternate flashing operations at the rate of not less than 50 nor more than 60 flashes per minute shall be provided.

The lamps shall be 650 lumens, 120 volt traffic signal lamps with sockets constructed to properly focus and hold the lamp firmly in position.

The housing shall have a rotatable sun visor not less than 175 mm [7 in] in length designed to shield the lens.

Reflectors shall be of such design that light from a properly focused lamp will reflect the light rays parallel. Reflectors shall have a maximum diameter at the point of contact with the lens of approximately 200 mm [8 in].

The lens shall consist of a round one-piece convex amber material which, when mounted, shall have a visible diameter of approximately 200 mm [8 in]. They shall distribute light and not diffuse it. The distribution of the light shall be asymmetrical in a downward direction. The light distribution of the lens shall not be uniform, but shall consist of a small high intensity portion with narrow distribution for long distance throw and a larger low intensity portion with wide distribution for short distance throw. Lenses shall be marked to indicate the top and bottom of the lens.

(b) Battery operated flashing lights shall be self-illuminated by an electric lamp behind the lens. These lights shall also be externally illuminated by reflex-reflective elements built into the lens to enable it to be seen by reflex-reflection of the light from the headlights of oncoming traffic. The batteries must be entirely enclosed in a case. A locking device must secure the case. The light shall have a flash rate of not less than 50 nor more than 60 flashes per minute from minus 30 °C [minus 20 °F] to plus 65 °C [plus 150 °F]. The light shall have an on time of not less than 10 percent of the flash cycle. The light beam projected upon a surface perpendicular to the axis of the light beam shall produce a lighted rectangular projection whose minimum horizontal dimension shall be 5 degrees each side of the horizontal axis. The effective intensity shall not have an initial value greater than 15.0 candelas or drop below 4.0 candelas during the first 336 hours of continuous flashing. The illuminated lens shall appear to be uniformly bright over its entire illuminated surface when viewed from any point within an angle of 9 degrees each side of the vertical axis and 5 degrees each side of the horizontal axis. The lens shall not be less than 175 mm [7 in] in diameter including a reflex-reflector ring of 13 mm [1/2 in] minimum width around the periphery. The lens shall be yellow in color and have a minimum relative luminous transmittance of 0.440 with a luminance of 2854° Kelvin. The lens shall be one-piece construction. The lens material shall be plastic and meet the luminous transmission requirements of this specification. The case containing the batteries and circuitry shall be constructed of a material capable of withstanding abuse equal to or greater than 1.21 mm thick steel [No. 18 U.S. Standard Gage Steel]. The housing and the lens frame, if of metal shall be properly cleaned, degreased and pretreated to promote adhesion. It shall be given one or more coats of enamel which, when dry shall completely obscure the metal. The enamel coating shall be of such quality that when the coated case is struck a light blow with a sharp tool, the paint will not chip or crack and if scratched with a knife will not powder. The case shall be so constructed and closed as to exclude moisture that would affect the proper operation of light. The case shall have a weep hole to allow the escape of moisture from condensation. Photoelectric controls, if provided, shall keep the light operating whenever the ambient light falls below 215 lx [20]

foot candles]. Each light shall be plainly marked as to the manufacturer's name and model number.

If required by the Resident, certification as to conformance to these specifications shall be furnished based on results of tests made by an independent testing laboratory. All lights are subject to random inspection and testing. All necessary random samples shall be provided to the Resident upon request without cost to the Department. All such samples shall be returned to the Contractor upon completion of the tests.

- 712.32 Copper Tubing Copper tubing and fittings shall conform to the requirements of ASTM B88M Type A [ASTM B88, Type K] or better.
- 712.33 Non-metallic Pipe, Flexible Non-metallic pipe and pipe fittings shall be acceptable flexible pipe manufactured from virgin polyethylene polymer suitable for transmitting liquids intended for human or animal consumption.
- 712.34 Non-metallic Pipe, Rigid Non-metallic pipe shall be Schedule 40 polyvinylchloride (PVC) that meets the requirement of ASTM D1785. Fittings shall be of the same material.
- <u>712.341 Metallic Pipe</u> Metallic pipe shall be ANSI, Standard B36.10, Schedule 40 steel pipe conforming to the requirements of ASTM A53 Types E or S, Grade B. End plates shall be steel conforming to ASTM A36/A36M.

Both the sleeve and end plates shall be hot dip galvanized. Pipe sleeve splices shall be welded splices with full penetration weld before galvanizing.

- 712.35 Epoxy Resin Epoxy resin for grouting or sealing shall consist of a mineral filled thixotropic, flexible epoxy resin having a pot life of approximately one hour at 10°C [50°F]. The grout shall be an approved product suitable for cementing steel dowels into the preformed holes of curb inlets and adjacent curbing. The sealant shall be an approved product, light gray in color and suitable for coating the surface.
- <u>712.36 Bituminous Curb</u> The asphalt cement for bituminous curb shall be of the grade required for the wearing course, or shall be Viscosity Grade AC-20 meeting the current requirements of Subsection 702.01 Asphalt Cement. The aggregate shall conform to the requirements of Subsection 703.07. The coarse aggregate portion retained on the 2.36 mm [No. 8] sieve may be either crushed rock or crushed gravel.

The mineral constituents of the bituminous mixture shall be sized and graded and combined in a composite blend that will produce a stable durable curbing with an acceptable texture. Bituminous material for curb shall meet the requirements of Section 403 - Hot Bituminous Pavement.

712.37 Precast Concrete Slab Portland cement concrete for precast slabs shall meet the requirements of Section 502 - Structural Concrete, Class A.

The slabs shall be precast to the dimension shown on the plans and cross section and in accordance with the Standard Detail plans for Concrete Sidewalk Slab. The surface shall be finished with a float finish in accordance with Subsection 502.14(c). Lift devices of sufficient strength to hold the slab while suspended from cables shall be cast into the top or back of the slab.

<u>712.38 Stone Slab</u> Stone slabs shall be of granite from an acceptable source, hard, durable, predominantly gray in color, free from seams which impair the structural integrity and be of smooth splitting character. Natural color variations characteristic of the deposit will be permitted. Exposed surfaces shall be free from drill holes or indications of drill holes. The granite slabs in any one section of backslope must be all the same finish.

The granite slabs shall be scabble dressed or sawed to an approximately true plane having no projections or depressions over 13 mm [½ in] under a 600 mm [2 ff] straightedge or over 25 mm [1 in] under a 1200 mm [4 ft] straightedge. The arris at the intersection of the top surface and exposed front face shall be pitched so that the arris line is uniform throughout the length of the installed slabs. The sides shall be square to the exposed face unless the slabs are to be set on a radius or other special condition which requires that the joints be cut to fit, but in any case shall be so finished that when the stones are placed side by side no space more than 20 mm [3/4 in] shall show in the joint for the full exposed height.

Liftpin holes in all sides will be allowed except on the exposed face.

SPECIAL PROVISION SECTION 717 ROADSIDE IMPROVEMENT MATERIAL

717.05 Mulch Binder. Change the third sentence to read as follows:

"Paper fiber mulch may be used as a binder at the rate of 2.3 kg/unit [5 lb/unit]."

CASCO BAY BRIDGE

ENHANCEMENT PROJECT

PORTLAND/SOUTH PORTLAND – CUMBERLAND COUNTY PIN 009025.20

SECTION 3

SPECIAL PROVISIONS

SECTION 504 Bridge Studding-Open Grating

<u>504.7010 Description</u> This work will consist of furnishing and installing welded steel knock-off studs to the surface of the open grid flooring on the Casco Bay Bridge. There are four (4) open grid leafs that measure approximately 31 feet by 117 feet and the studs will be in stalled in a 5 inch square pattern.

<u>504.1020 Submittals</u> Prior to commencing the work, the contractor will submit the type of system to be used to complete with work. The submittal will identify the manufacturer, types of materials, installation equipment procedures and quality control measures

In addition to the stud information the contractor will also submit a traffic control plan that it is in conformance with Special Provision104- Bridge Coordination and the Departments Standard Specifications.

<u>504.1030 Materials</u> Materials shall meet the requirements listed below. The Contractor shall provide the stud manufacturer's certification that the studs meet the material requirements prior to beginning welding.

Weld studs should be low carbon steel or stainless steel and "knock-off" type without threads.

Weld studs should be 5/16 inches in diameter and $\frac{1}{4}$ inches in length after being placed and knocked-off.

Weld studs should have the following cold mechanical properties:

| Mechanical Property | Required Minimum |
|---------------------------|--|
| Tensile Strength | 60,000 Pounds per Square Inch 50,000 Pounds per Square Inch |
| Yield Strength Elongation | 20 Percent |

<u>504.1040 Quality of Work</u> The studs shall be free from rust, scale, oil and other contaminants that would adversely affect the welding operation.

Weld locations shall be free of scale, rust, oil and other deleterious material. The Contractor may clean the weld locations by any method that results in satisfactory welds.

If using Arc Stud Weld method, the arc shields or ferrules shall be kept dry. Ferrules showing signs of moisture shall be oven dried at 120°C [250°F] for two hours prior to use.

The longitudinal spacing of weld studs shall vary no more than \pm 3 mm [½ in] from that shown on the plans.

Arc shields or ferrules shall be removed from stude after welding.

<u>504.1050 Technique</u> Studs shall be welded with automatically timed stud welding equipment connected to a suitable direct current.

If more than one stud-welding gun is operated from the same power source, they shall be interlocked so that only one gun can operate at a time.

Welding control unit shall incorporate a regulating mechanism that prevents arc when adequate power is not available so as to eliminate partial welds.

Welding shall not be done when the base metal temperature is below -20°C [-4°F] or when the surface is wet or exposed to rain or snow.

Studs may be welded using either the Capacitor Discharge (CD) or the Arc Stud Welding method.

Stud Weld Gun shall be equipped with a plunge dampening device to reduce weld splatter if using Capacitor Discharge method.

504.1060 Construction Requirements At the beginning of each day or shift and after any change in set-up, the first two studs welded shall be tested. The studs shall be visually inspected for a full 360° weld flash. If either stud fails the visual test, the Contractor shall correct the procedure and weld two more studs to separate material representative of the grade and thickness of the material being welded in production. This procedure shall continue on separate plates until the Contractor has successfully welded two consecutive studs.

While in operation, the welding gun shall be held in position without movement until the weld metal has solidified.

If an unacceptable stud has been removed from an area subject to tensile or compression stresses or stress reversal, the weld area shall be ground flush. If base metal has been pulled out in the course of stud removal, the pocket shall be filled by welding in accordance with the field welding requirements of Section 504 – Structural Steel of the State of Maine Department of Transportation Standard Specifications. The weld shall be ground flush.

504.1070 Inspection Studs will be visually inspected for a full 360° weld flash. Failing studs shall be removed, replaced and weld areas repaired.

<u>504.1080 Method of Measurement</u> Weld Studs shall be measured as part of the lump sum, and will consist of all weld studs required and acceptably installed.

<u>504.1090 Basis of Payment</u> Payment will be made at the contract unit price per lump sum for all work completed and accepted, which price and payment thereof shall constitute full compensation for all labor, materials, equipment, expenses and incidentals for completing the work. Payment will be made under:

Pay Item 504.7091

Pay Unit Lump Sum

SPECIAL PROVISIONS <u>SECTION 507</u> RAILINGS (Special Bridge Railing/Fence System)

GENERAL

<u>Description.</u> This work consists of fabricating and installing a special bridge railing/fence system along the top of the bridge barriers shown on the plans. It should be noted that the special railing/fence system is currently installed on the existing bridge. The new railing/fence system shall be consistent and compatible with the existing railing and fence in terms of color and fabrication.

<u>Submittals.</u> The Contractor shall provide the following submittals to the Engineer for review. The Contractor shall not order materials until the Engineer's review of certifications or test results has been obtained.

- A. Shop Drawings: Submit Shop Drawings for the following:
 - 1. Fence and Rails: Submit layout drawings based upon field dimensions and detail drawings of all conditions for fence and rail construction.
 - 2. Schedule: Schedule outlining all items to be color finished under work of this Section together with a breakdown of surface preparation techniques and primer and finish materials to be applied.
- B. Manufacturer's product literature: Submit manufacturer's material description and installation instructions for chain-link fabric fence.
- C. Contractor shall submit verification to Engineer, which states that all proposed manufacturers of fence and rails have produced products of a similar nature and quality to that which is specified, for a minimum of five years, and that each manufacturer is capable of producing the quantity of fence and rails required by this contract within the time allocated in the project schedule.

MATERIALS

All material used in the fabrication and installation of the fence, railings and appurtenances shall conform to the following specifications:

A. Steel Tubing: steel for fabrication shall be in conformance with ASTM A500 Grade B requirements.

- B. Structural Steel for Rail Brackets and Base Plates: structural steel shall be in conformance with ASTM A709, Grade 36.
- C. Steel Bar Stock: steel bar stock shall be in conformance to ASTM A706, Grade 36.
- D. Steel finishing requirements for all steel parts of fence and rails system with the exception of the chain-link fabric to be chemically suitable for galvanizing, shall contain carbon below 0.25%, phosphorous below 0.5% and manganese below 1.35%. Contact the galvanizer if the steel does not comply in order to determine the suitability for processing.
- E. All material that is specified to be galvanized shall be hot-dipped galvanized after fabrication, in accordance with ASTM Standard A123, A153 or A386, as applicable. Zinc bath for hot-dipped galvanizing shall contain not less than .5% nickel by weight. Final film thickness of zinc shall be a minimum of 3.4 mils. The galvanizer shall provide a notarized statement indicating compliance with the ASTM Standard.
- F. Metal primer for hot dip galvanized parts shall be a two component epoxy based primer known as universal primer, compatible with recognized quality topcoats.
- G. The top coat for hot dip galvanized parts shall be a specifically formulated two component high gloss catalyzed aliphatic urethane. Color shall meet Federal Specification No. 595. Color No. 37150 Light Blue/Gray.
- H. Steel Hardware: All hardware shall be galvanized steel or stainless steel as indicated on the Drawings and conforming to the following requirements:
 - 1. Galvanized steel hardware shall conform to ASTM A307 requirements and shall be galvanized per ASTM A153.
 - 2. Hardware for use in standard steel joints shall conform to ASTM A325 and shall be galvanized per ASTM A153.
- I. The chain-link fence fabric shall be 9-gage galvanized with thermally bonded black coating, meeting the requirements of ASTM F668-2b. The fabric shall be attached to the posts and one "toe board" using black vinyl coated aluminum tie wires spaced in accordance with standard chain-link fence installation practices. There shall be a 7-gage black vinyl coated tension wire on the top of the 3'-6" and top and bottom of the 1'-11" fence.
- J. Steel fence and rails shall be fabricated as shown on Drawings.

K. Steel posts shall be one piece full seam welded construction, hot-dip galvanized and coated with an epoxy prime coat and color urethane top coat. Custom top coat color shall be subject to review by the Engineer.

| Fence Height | Clearance Below Panel | Wire Mesh Height |
|--------------|-----------------------|------------------|
| 1'-11" | 0" | 2'-0" |
| 3'-6" | 0" | 3'-6" |

- L. Fence posts and rails, including all associated steel parts shall be epoxy prime coated and color urethane top coated after fabrication as specified herein.
- M. Preformed base pads and shim pads for adjustment of fence posts shall meet the requirements of Subsection 713.03.

CONSTRUCTION METHODS

General. Workmanship and finish shall be equal to the best practice of modern shops for each item of work. Exposed surfaces shall have smooth finish and sharp, well defined lines and arises. Sections shall be well formed to shape and size with sharp lines and angles: curved work shall be sprung evenly to curves. Castings shall have sharp corners and edges, and shall be clean, smooth, and true to pattern. Welding shall be in accordance with the Structural Welding Code, D1.1-2000, of the American Welding Society. All welding, except as otherwise indicated, shall extend the entire length of joints. All welded face joints shall be ground flush and smooth. All welds shall be water tight.

<u>Fabrication.</u> Steel fabrication for fence and rails shall be accomplished using the highest standards of workmanship. Individual steel pieces to be welded shall be saw cut and carefully fit together. All connections shall be full welded and ground flush and smooth. All fabricated steel items shall be fine sanded throughout to produce a high standard of surface smoothness. All surfaces and connections shall be without visible grinding marks, surface differentiation or variation.

Arc welding procedure shall conform to the current standards of the AWS. All welds shall be designated on the plans and shall be ground smooth and flush to a neat finish. All welds shall be water tight and care shall be taken to minimize distortion due to heat. Metal shall not be primed, painted or galvanized until after completion of welding.

<u>Surface Preparation.</u> Following fabrication, steel shall be thoroughly cleaned of all dirt, oil, residue or foreign substance and then hot-dip galvanized in compliance with ASTM A123, A143, A153 and/or A384, A385 and A780 as applicable. The steel shall then receive surface smoothing and surface color coating.

Following galvanizing, steel shall receive surface grinding to remove lumps, sags or spikes resultant from the galvanizing process. The finished surface following grinding shall be hand smooth and without irregularities. All hot dip galvanized material shall be cleaned in accordance with Steel Structure Painting Council Specification SSPC-SP-1. Take care not to damage the galvanized surface coating.

Galvanized surfaces damaged by welding or other causes shall be wire brushed to remove all loose or cracked zinc coating and re-galvanized with a 95% zinc cold galvanizing coating prior to finishing.

Following cleaning and prior to the application of the finish coat, materials shall be visually inspected to confirm complete absence of contaminants.

Painting. Galvanized steel fence and rail parts shall be finished as follows:

Following galvanizing and prior to finish coating, the hot dip galvanized steel shall be prime coated. The primer shall be applied by airless electrostatic spray, 1 coat, with a minimum dry film thickness of 4.0 mils within 24 hours of cleaning. If sufficient film thickness cannot be achieved with a single coat, then a second coat will be required.

Topcoats shall be factory applied by airless electrostatic spray in a two coat application to provide a total topcoat thickness of 5.0 mils (DFT) minimum. This shall be applied over clean dry primed steel.

<u>Installation.</u> The Contractor shall be responsible for timing the delivery of all items so as to minimize on-site storage time prior to installation. All stored materials and items shall be protected from weather, careless handling and vandalism.

Contractor shall handle, pack and ship in such a manner as to minimize damage to the finish. Upon arrival at job site it is the Contractor's responsibility to take equal precautions. Since some surface damage is inevitable. Suitable touch-up material shall be readily available to repair any damage immediately.

Fence and rails shall be fabricated and fastened in accordance with the Drawings. Fence posts and rails shall be installed perpendicular and parallel, respectively, to the finish grade of the horizontal concrete bridge curb or parapet base, true to the lines and grades shown on plans. Details of attaching the fence fabric, including the necessary hardware, shall be similar to the existing fencing on the bridge.

Fence rails shall be installed securely on post supports as shown on Drawings.

Rail splices shall be located and installed as shown on Drawings.

Shim all bolt connections as necessary and secure bolts. Exposed bolts shall be fastened with an approved semi-permanent adhesive to protect against vandalism.

Additional Bridge Railing Material

The Contractor shall also furnish 25 LF of the specified chain-link fabric for each fence height, four additional fence posts, for each fence height and 40 linear feet of additional railing with bracket, fastening holes and expansion sleeves, all completely finished and coated as described above. This material shall be carefully delivered and stored as directed by the Engineer at the relocated MDOT maintenance building adjacent to the north approach spans.

COMPENSATION

Method of Measurement. Furnishing and installing the fence rail system of the various heights shown on the plans will be measured by the linear foot for each height of fence installed, in place and accepted. Measurement will be along the gradient of the fence from outside-to-outside of end posts and for each continuous run of fence, including gate areas.

Furnishing and installing gates in the fence and in the concrete barriers will not be measured for payment but will be considered incidental to the various special bridge fence items.

Furnishing the additional fabric posts and appurtenances as described above will not be measured for payment but will be considered incidental to the respective fence items.

Basis of Payment. The accepted quantities of special bridge fence will be paid for at the contract price per linear foot of the type and size indicated on the plans, complete in place. Payment shall be full compensation for furnishing and assembling all fence and rail materials, including fence posts, provisions for expansion at bridge joints, gates in the fence and in the concrete barrier, from the base plate at deck level to the top of the fence.

Payment Items.

| Pay Item | | Pay Unit |
|----------------|------------------------------------|-------------|
| 507. <u>08</u> | 1 ⁴ -11" Bridge Railing | Linear Foot |
| 507. <u>09</u> | 3'-6" Bridge Railing | Linear Foot |

SPECIAL PROVISIONS **SECTION 535** PRECAST PRESTRESSED CONCRETE SUPERSTRUCTURE (Machinery Enclosure)

DESCRIPTION

This work is the construction of an enclosure over and around each of four sets of bascule bridge machinery in both bascule piers, as detailed on the plans and as specified herein. The work consists of the following major components: concrete curbs, structural steel framework, prestressed concrete roof panels, corrugated metal roof deck with rigid insulation, membrane waterproofing, insulated wall planks, access hatches, sliding windows, ladders and miscellaneous material as indicated herein and on the contract plans.

The removal, relocation and/or modification of existing components to facilitate the construction of the new enclosure are also made a part of this work.

The work shall also conform to the requirements of other related applicable sections of the Standard Specifications. Some of the major related specifications include Section 502 – Structural Concrete, Section 504 – Structural Steel and Section 535 – Precast Prestressed Concrete Superstructure.

MATERIALS

Structural steel

ASTM A36 and appurtenant steel components as stated in Table 1 of the standard for A36. All structural steel shapes and hardware shall be galvanized in accordance with ASTM A123 and A153 before assembly and erection. Galvanized coating that is damaged due to fabrication, handling or welding shall be repaired in accordance with ASTM A780, with the approval of the Engineer.

Concrete Roof panels Precast, prestressed concrete "Hollow Core" slab panel as manufactured by Strescon Limited, or an approved equal. For the span indicated technical data shall be provided for the slab panel with a live load of 85 psf. Provide a light density foam insulation in the voids of each roof panel. The type of insulation and method of installation shall be submitted for review and approval. The minimum concrete strength shall be 5,000 psi and the minimum prestressing strand strength shall be 270,000 psi. The top surface of the concrete panel shall be finished to provide a smooth float finish that is without projections and crevices. Provide mild steel reinforcing, as required, to facilitate the handling of the panels during construction without causing damage to the panels.

Structural concrete

Class A concrete meeting the requirements of Section 502 – Structural Concrete.

Wall planks

Insulated wall planks shall be provided to enclose the sides of the enclosure from the roof panels to the machinery floor. The insulated wall panels shall have 2" foam insulation core sandwiched between painted metal exterior surfaces. The panels shall be capable of tongue and groove interlock along the vertical joint between adjacent planks and be able to be installed from within the enclosure. The metal surfaces shall be minimum 26-gauge Galvalume steel with factory applied exterior paint or coating. The top coat on both sides of the planks shall be white. Provide all required matching flashings, trims, self-draining closures, and similar metal accessories for wall panels.

Metal roof

Corrugated metal roof deck shall be 16-gauge wide rib (Type B) galvanized steel corrugated roof deck paneling conforming to ASTM A653, minimum Grade 33 with G90 coating designation. Rigid insulation shall be designed for direct application to steel roof decking and be compatible with the proposed roof covering membrane.

Access hatch

Roof scuttles, as manufactured by Bilco or an approved equal, shall be mounted to the roof panels so that the hatch is above the roof level and will prevent roof surface drainage from entering through the scuttle opening when opened or closed. The roof scuttle door shall be solid steel.

Grout

Prepackaged non-shrink grout with a minimum compressive strength of 3,000 psi at 28 days.

Timber blocking

Southern pine, commercial grade timber, or an approved equal, that is treated with CCA preservative (minimum 0.25 lb/cu.ft.) in accordance with AWPA.

Membrane

EPDM membrane waterproofing shall be reinforced, 60 mil thickness, that is manufactured as a roofing membrane with superior puncture and tear resistance. The means of attaching the membrane to the concrete roof panels and rigid insulation shall be as recommended by the membrane manufacturer.

Brush seals

The brush seals shall be composed of a dense nylon filaments that are bound securely together by a strip of galvanized steel. Aluminum brush holders shall have clear anodized finish with slotted holes for adjustment. The brush seal shall be Therm-L-Brush Weatherseals, as manufactured by

Casco Bay Bridge June 1, 2001

Sealeze Corporation, Richmond, VA @ (800)-446-7325, or an approved

equal.

Trim metal Small pieces of metal for flashing, etc., shall be 22-gauge minimum

galvanized sheet metal.

Sliding windows The sliding window shall be 2 ft by 3 ft double-glazed steel window with

one fixed panel and one sliding panel, that provides a thermal barrier between the interior and exterior steel frames. A removable insect screen

shall be attached to the outside of the sliding panel.

Caulking Gun-grade caulk conforming to ASTM C920, Grade NS, single

component.

Expansion anchor 3/8" diameter expansion anchor shall be Type 304 stainless steel anchors

with minimum ultimate tensile load capacity of 8,500 pounds and ultimate

shear capacity of 6,000 pounds.

Anchor bolts Column anchor bolts shall be installed in air-drilled holes using epoxy-

type or polyester resin anchoring material with guaranteed ultimate tensile load capacity of 26,000 pounds and ultimate shear capacity of 12,000 pounds, as approved by the Engineer. Anchors shall be installed in

accordance with manufacturer's recommendations.

Bonding Adhesive Epoxy bonding adhesive for bonding new concrete curb to existing

concrete shall conform to ASTM C881, Type II, Grade 3.

Miscellaneous

materials As indicated on the plans.

CONSTRUCTION

The Contractor shall exercise special care to protect the operating machinery from damage or from contamination caused by his construction activities in the vicinity of the machinery components. Cleaning and relubrication of contaminated machinery or replacement of damaged component shall be the responsibility of the Contractor at no additional expense to the State.

The Contractor shall develop a set of safety procedures to safeguard personnel who will be performing work in connection with the movable bridge. He shall adhere to the Casco Bay Bridge lockout tagout procedure when working in close proximity of moving equipment.

The Contractor shall not interfere with normal bridge operation without obtaining prior permission from Bill Johnson of the Maine Department of Transportation Bridge Maintenance. Access to bridge operating machinery shall be provided at all times.

The Contractor shall provide all required clearances between the fixed machinery enclosure and the movable bascule span. The Contractor shall take sufficient field measurements to verify the dimensions shown on the plans.

The ends of the hollow cores of the prestressed concrete roof panels shall be sealed with concrete or grout. Timber blocking and flashing shall be applied to all the edges of the roof as shown on the plans. The tapered gap between adjacent prestressed concrete roof panels shall be filled with non-shrink grout. A mortar mixture that might shrink shall not be used to fill the space between roof panels.

All corrugated metal roof decks shall be secured to their supports by mechanical means or by puddle welds made through the decking to the supporting steel.

The membrane waterproofing shall be installed on top of the prestressed concrete roof panels and the top of the insulation over the corrugated roof panels using a procedure and material as recommended by the membrane manufacturer. At locations of roof openings for access hatches, an extra layer of membrane waterproofing shall be placed on the vertical walls of the access hatches and on the horizontal surfaces of the roofing so that the waterproofing integrity is maintained.

The wall planks shall be installed from the interior side of the framework using material and equipment that is recommended by the manufacturer. At locations where the wall planks are interrupted by the sliding windows and the exhaust fans cut opening in the wall planks so that the minimum number of wall planks are cut for the openings. The exposed edges of the wall planks shall be sealed by placing galvanized steel closures as recommended by the wall plank manufacturer.

Concrete surface shall be free of loose material and shall be thoroughly solvent cleaned and rinsed to remove all traces of grease and deleterious material prior to placing new concrete.

METHOD OF MEASUREMENT

Machinery Enclosure will be measured for payment as one lump sum.

BASIS OF PAYMENT

The Machinery Enclosure work shall be paid for at the lump sum price bid for all material, labor, equipment and plant required to complete the four enclosures. The removal, relocation and/or modification of existing installation required to facilitate the construction of the new enclosures shall also be included in the bid price. The cost for mobilization, demobilization, and site offices for the Engineer and the Contractor shall be included in the bid price.

Payment will be made under:

Item No Pay Item Pay Unit

535.<u>70</u> Machinery Enclosure Lump Sum

SPECIAL PROVISION

SECTION 607 FENCES AND MEDIAN CLOSURE

<u>607.01 Description:</u> This work shall consist of furnishing and installing the work described in the following sketches and notes.

 $\underline{607.02~\text{Method of Measurement:}}$ Fences and Median Closure shall be paid for as a lump sum, complete and accepted.

607.03 Basis of Payment: Payment will be made at the contract unit price per lump sum for all work completed and accepted, which price and payment thereof shall constitute full compensation for all labor, materials, equipment, expenses and incidentals for completing the work. Payment will be made under:

Pay Item 607.07

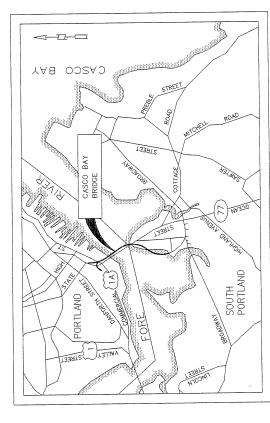
Pay Unit Lump Sum

DEPARTMENT OF TRANSPORTATION STATE OF MAINE



CASCO BAY BRIDGE

BASCULE SPAN FENCES AND MEDIAN CLOSURE



EUGENE WALDNER WALDNER TOTAL T

A PORTION OF CUMBERLAND COUNTY

1/2 MILE 0 1/2 MILE 1 MILE

LOCATION MAP

4. Engua Waldow J FOR MODSESKI AND MASTERS, INC.

- FENCES & MEDIAN CLOSURE GENERAL NOTES

SPECIFICATIONS

All materials and workmanship shall be in accordance with the State of Maine Department of Transportation Standard Specifications, Highways and Bridges, Revision of April 1995 and the Special Provisions, if applicable.

ANSI/AWS D1.1-2000 Structural Welding Code.

MATERIALS

See Special Provision Section 507 Railings (Special Bridge Railing/Fence System). Bridge Rail/Fence:

Anchor Bolts For Fence Posts: 5/8—inch diam. anchor bolts, installed in air—drilled

holes using epoxy type or polyester resin anchor material, with minimum ultimate tensile load capacity 13,000 pounds and ultimate shear capacity of 6,000 pounds.

Median Closure:

Aluminum grating shall be 6063—76 aluminum conforming to ASTM B—221.

Structural steel supports: ASTM A709, Grade 36 or ASTM A36.

Welded threaded studs:

See Standard Specifications, Subsection 711.06

Stainless steel Type 316 Saddle clips and fasteners:

ASTM A36. Balance bars:

Salvanizing:

due to fabrication, handling or welding shall be repaired in accordance with ASTM A780. prior to assembly. Galvanized coating that is damaged All structural steel shapes and hardware shall be galvanized in accordance with ASTM A123 and A153

CONSTRUCTION

· A special bridge railing/fence system, matching the concrete barriers as shown on the plans and as specified in the Special Provision Section 507 Railings (Special Bridge Railing/Fence System). existing railing/fence installation, shall be installed on the fixed sidewalk concrete barriers and median

Aluminum grating shall be provided to close the $3-{\rm foot}$ gap out—to—out of the movable steel median barriers of \cdot the adjacent northbound and southbound leaves of the

Field Verification

responsible for verifying all dimensions in the field and Dimensions are based on the original design plans. Actual dimensions may vary. The Contractor shall be taking additional measurements as necessary to supplement the dimensions provided.

FENCES & MEDIAN CLOSURE GENERAL NOTES - 1 DEPARTMENT OF TRANSPORTATION CASCO BAY BRIDGE STATE OF MAINE

GENERAL NOTES - CONT.

Potential Interference

These plans are detailed based on the original design drawings and information made available to the designer. Existing conditions in the field may vary from the information shown on these plans. Any potential interference between the new construction and the existing conditions of the movable span have been anticipated as much as possible, and the attempt made to avoid such interference. However, it is possible that additional interference or conflict may exist which are not detailed on these plans. The Contractor shall be responsible for verifying the extent of these potential interference and any unanticipated potential interference should be reported to the Engineer immediately.

ccess.

traffic and marine traffic shall be maintained at all times durations of activities, shall be submitted to the DOT for The contractor shall not Access from the water must be authorities by the contractor prior to beginning his work. The contractor shall plan his work in such a manner as The contractor is responsible for his methods and means of accessing the work. The contractor shall not marine traffic. A plan of execution, including projected unless special permission is obtained from the proper assume that the operation of the lift bridge may be interrupted to provide access to his work. Highway approval prior to starting work The contractor sho obstruct the navigation channel without permission from the Coast Guard. Access from the water mu to limit such periods of interruption to highway or coordinated with the US Coast Guard, including obtaining the necessary permits to occupy the navigation channel.

Safeguards

The Contractor shall develop a set of safety procedures to safeguard personnel who will be performing work in connection with the movable bridge. He shall adhere to the Casco Bay Bridge lockout tagout procedure when working on the movable portion of the bridge.

The Contractor shall not interfere with normal bridge operation without obtaining prior permission from Bill Johnson of the Maine Department of Transportation Bridge Maintenance.

The Contractor shall exercise special care to protect the operating machinery from damage or from contamination caused by his construction activities in the vicinity of the machinery components. Cleaning and relubrication of contaminated machinery or replacement of damaged component shall be the responsibility of the Contractor at no additional expense to the State.

Welded Studs

Prior to installing welded threaded studs on galvanized steel barriers, the area shall be cleaned by wire—brushing to remove the galvanizing. The damaged galvanizing shall be repaired after the studs are installed.

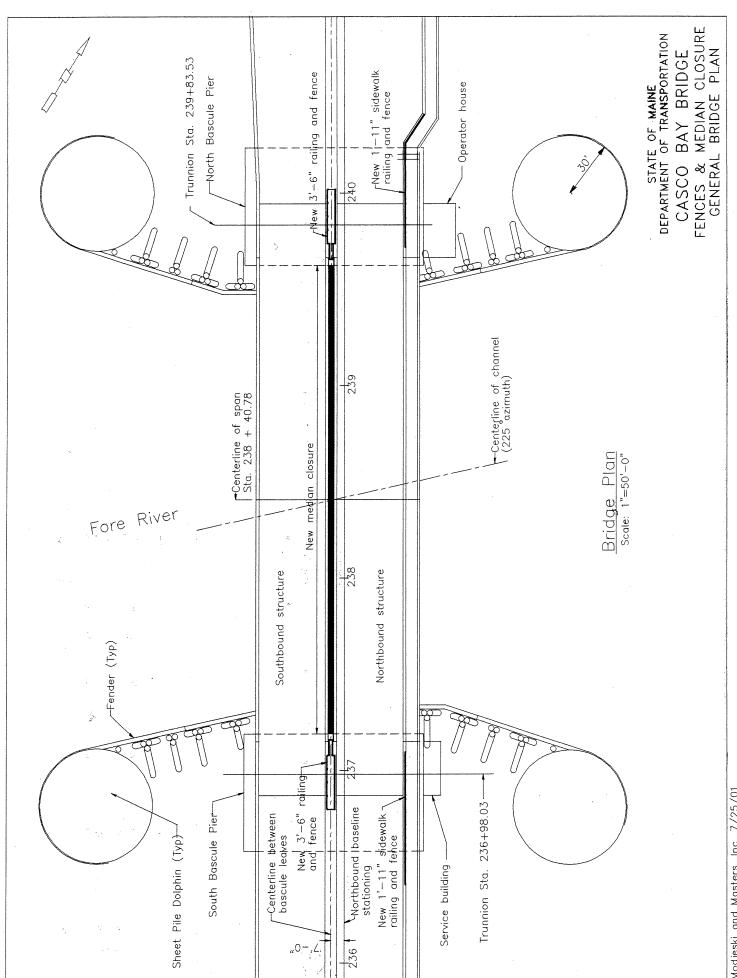
STATE OF MAINE
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FENCES & MEDIAN CLOSURE
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GENERAL NOTES - CONT.

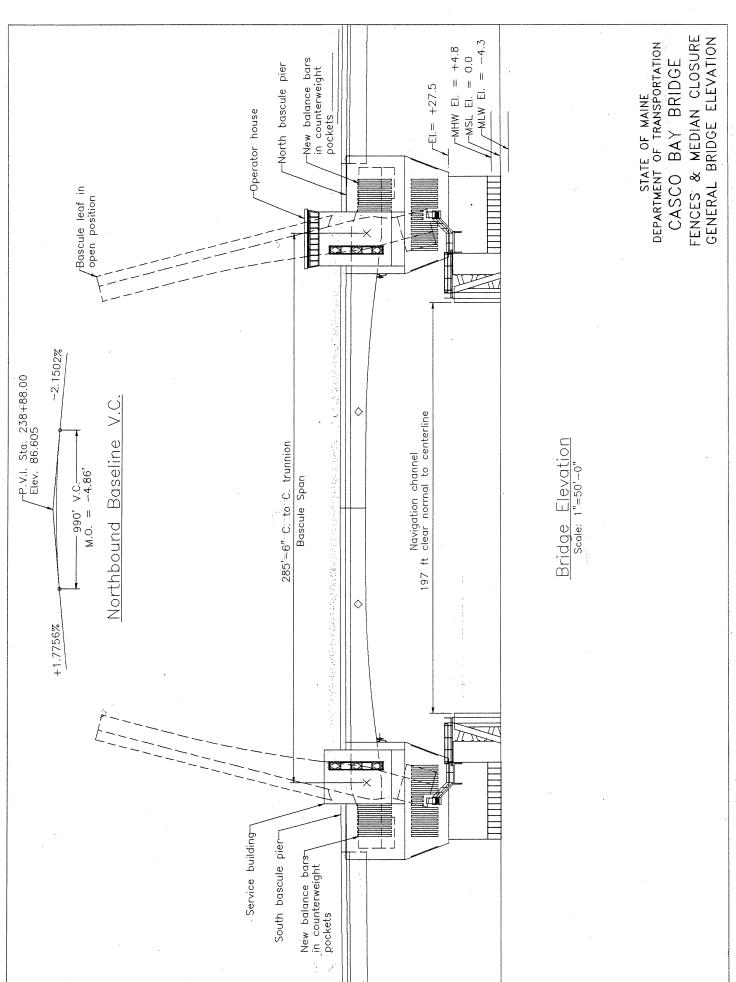
Span Balancing

The imbalance due to the installation of the median closure shall be adjusted by re-balancing each of the four bascule leaf by the addition of balance bars in the counterweight pockets to achieve the desired balance condition. It is estimated that a total of about 42 balance bars will be required for each leaf. The new balance bars shall be galvanized bars 1-1/2"x1-1/2"x13"-0" steel bars, similar to existing balance bars. Attach a 1/4-inch diameter stainless steel (Type 304) eye bolt to the end of each balance bar for use as a lifting hook. Coat each balance bar with a thin coat of heavy-weight non-detergent lubricating oil or grease prior to placing in the pockets.

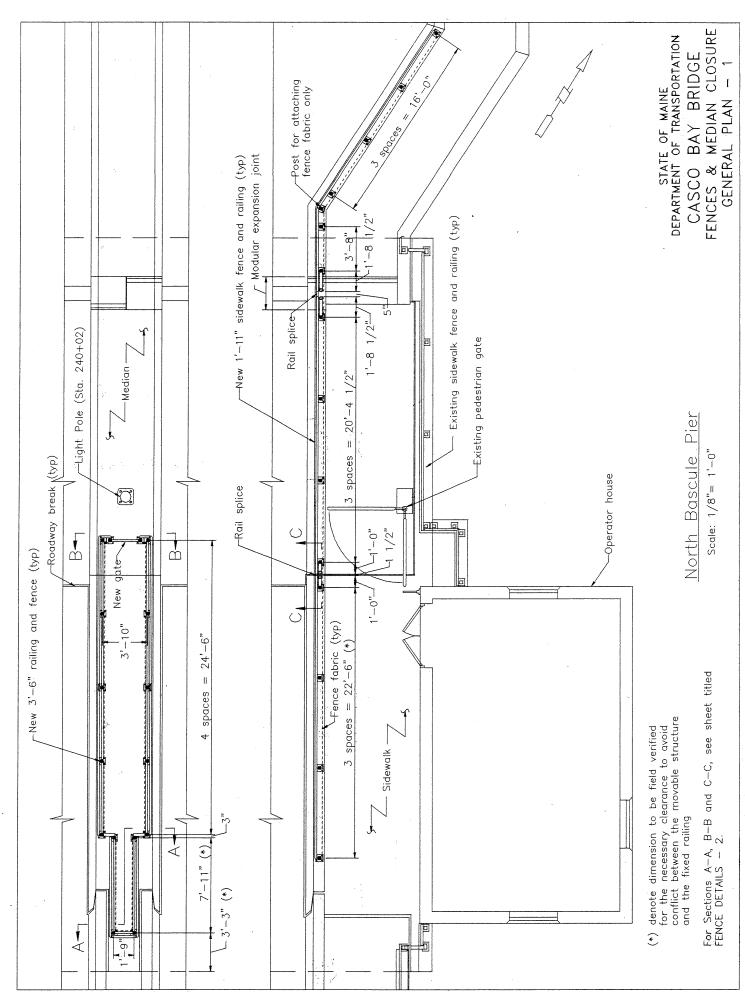
STATE OF MAINE
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FENCES & MEDIAN CLOSURE
GENERAL NOTES - 3



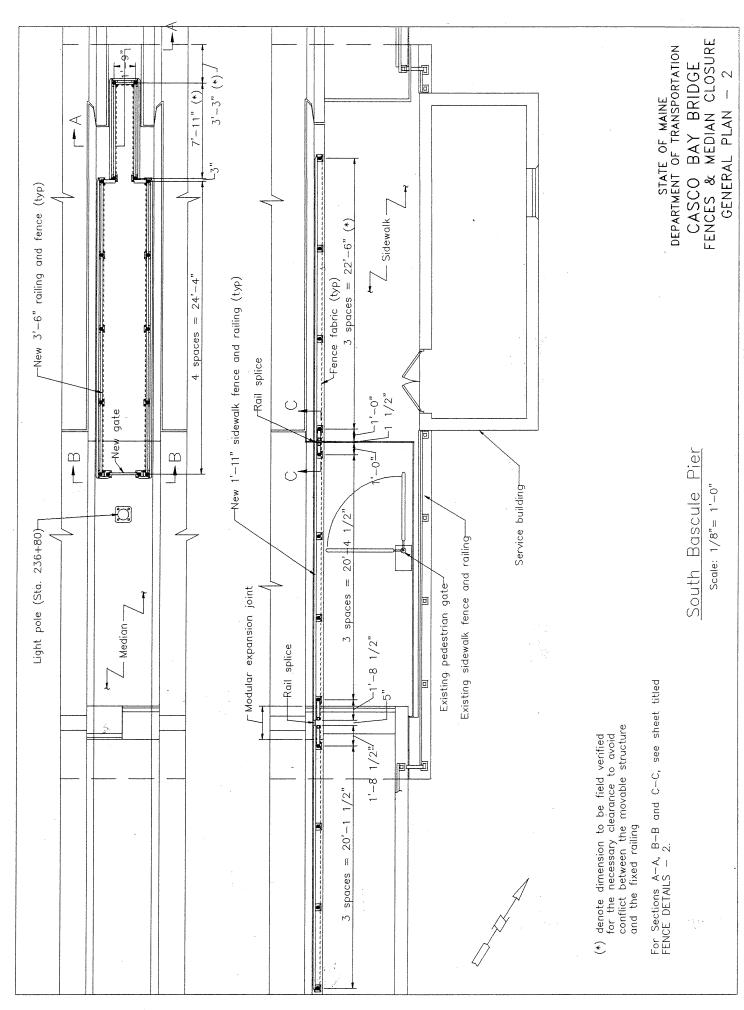
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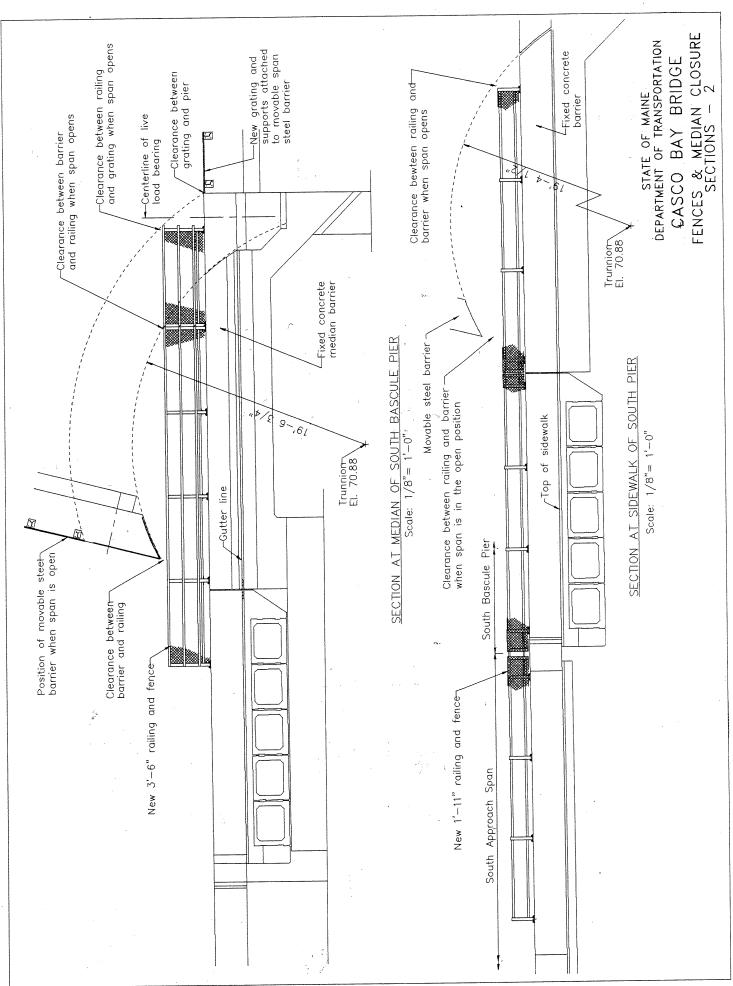


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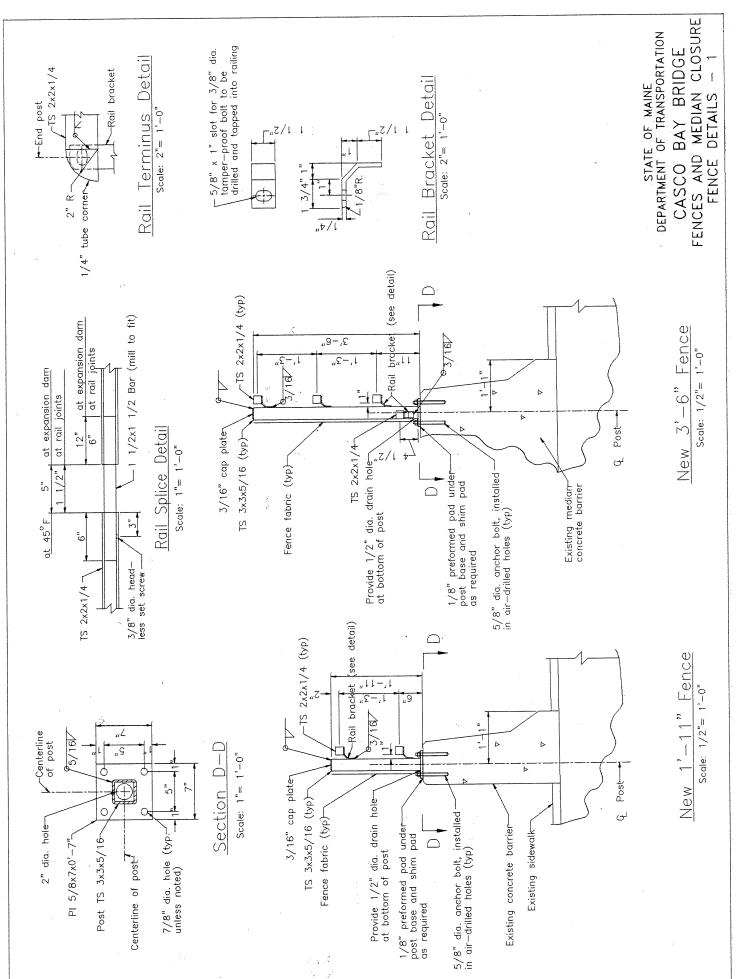


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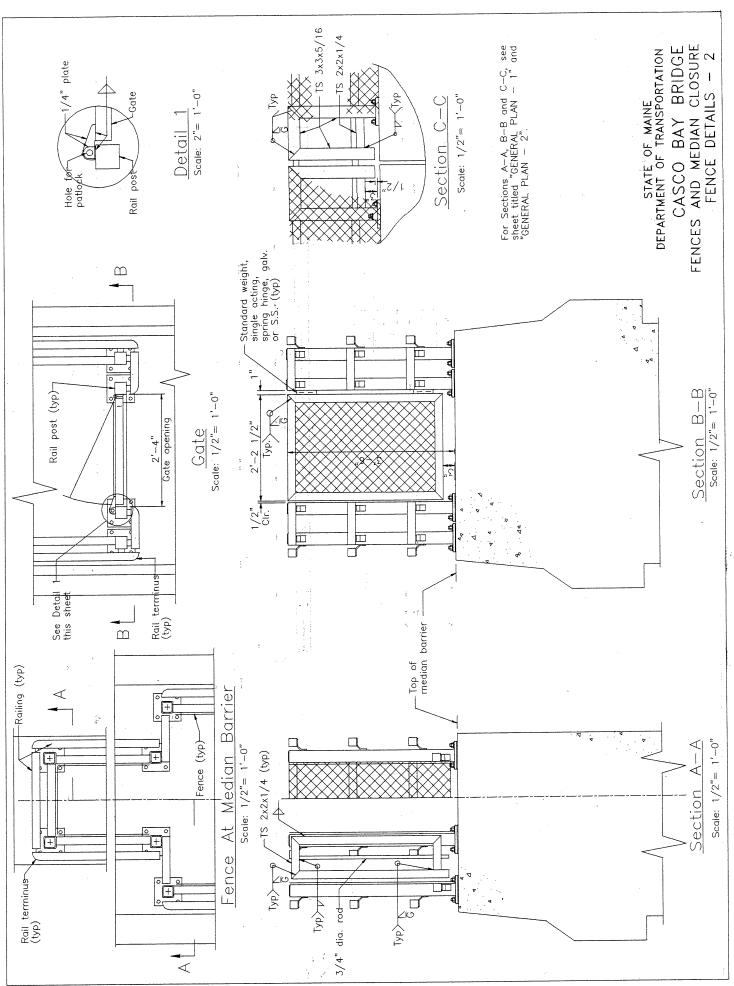
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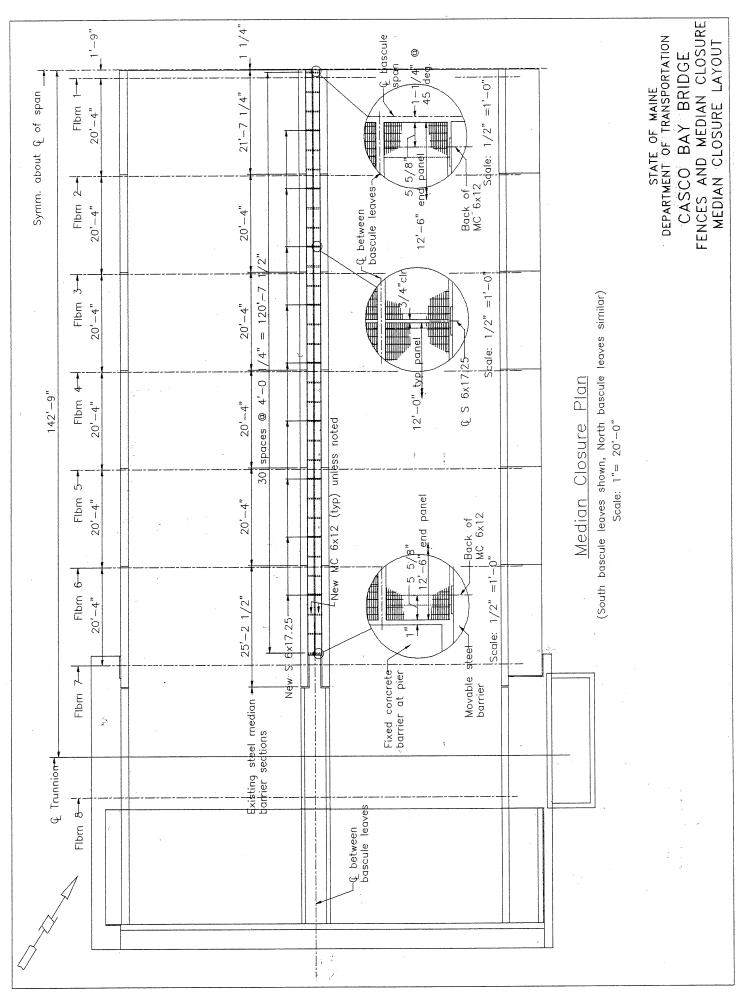
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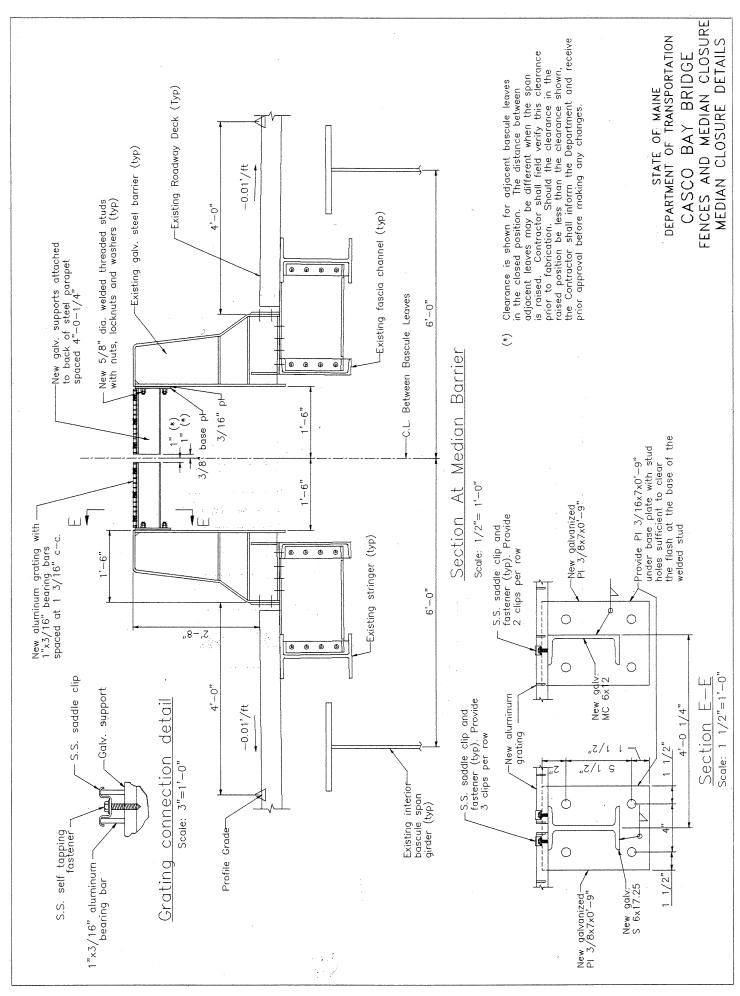
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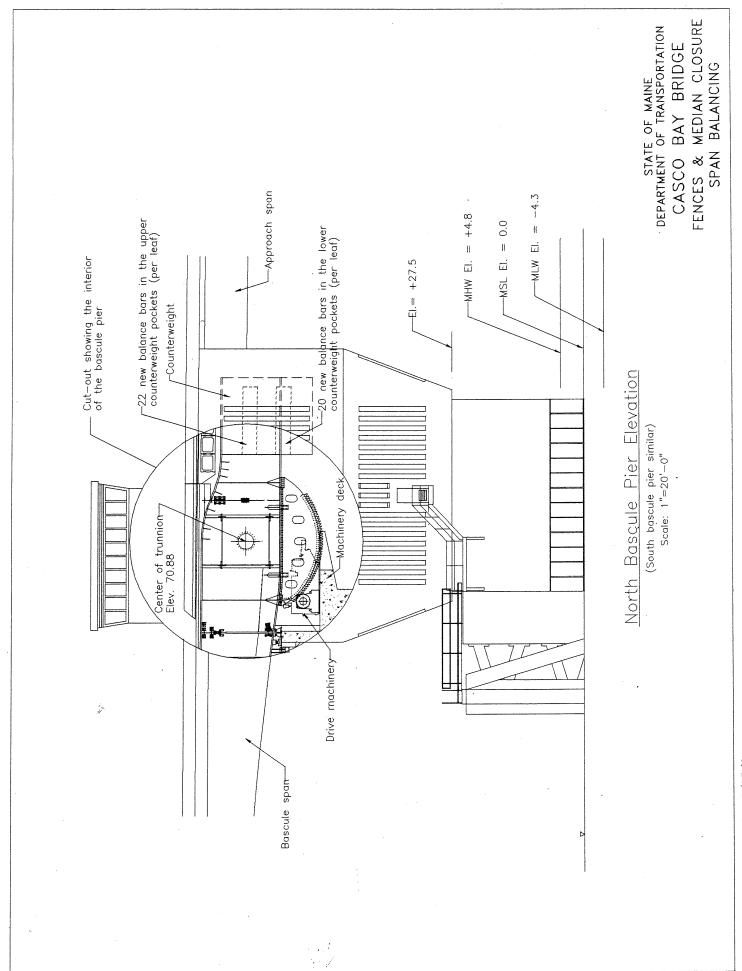
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Modjeski and Masters, Inc. 7/25/01

SPECIAL PROVISION

SECTION 638 SECURITY CAMERAS

(CCTV Security Surveillance System)

638.1001 Description This work will consist of designing, furnishing, and installing a Closed Circuit Television (CCTV) Surveillance System to monitor the Casco Bay Bridge. The system shall include 12 fixed color cameras, 4 pan tilt zoom (PTZ) color cameras, appropriate enclosures (NEMA 4x), manual or automatic event (motion or otherwise) activated recording from multiple cameras, simultaneously, and a system for control of video and data inputs and outputs. As part of the design, the successful bidder will work with the Department on placement of components such that the system can monitor the entire Casco Bay Bridge structure, above and below the bridge deck. Recorded data storage shall be at least 4 hours per camera or may be 64 hours total for all cameras as long as there is at least 4 hours per camera and that data can be retrieved for a single location (camera).

638.1002 Submittals Prior to commencing the work, the contractor will submit a plan of the system designed to complete the work. The submittal will identify the manufacturer, product numbers, product specifications, installation equipment procedures, camera locations, views covered by each camera, and operating procedures.

In addition to the design information the contractor will also submit a traffic control plan that it is in conformance with Special Provision104- Bridge Coordination and the Departments Standard Specifications Section 652.

<u>638.1003 Products and Materials</u> Products and materials shall meet the requirements listed below.

638.1004 Video Switcher Specifications The following specifications define the minimum acceptable characteristics for a video switching system that will be used by the Maine Department of Transportation in their security surveillance applications. This video switcher shall be fully compatible with the video cameras that are selected for MDOT's applications. Both simple fixed lens cameras and complex pan-tilt-zoom cameras shall be fully supported. The system shall have a flexible architecture that is scalable from fewer than 6 inputs and 2 outputs, to a system with more than 30 inputs and 20 outputs. The switcher shall be capable of switching any video input to any video output(s).

The switcher shall have the ability to be configured for as many as 8 operator control ports from up to 8 different locations. The system shall be capable of communication with remote controllers using either Ethernet or other protocol compatible with the proposed camera system. The system shall have the ability to regulate operator access to the system as described below:

•Operators shall have passwords that allow access to the system.

When given access to the system, the operator shall be able to perform the following basic functions:

- •Switch camera video signals to monitors.
- . Operate camera functions such as pan, tilt, zoom, and focus.
- •Activate preprogrammed group presets. (Set groups of cameras to previously selected positions.)
- •Activate previously established camera tour sequences.
- •Acknowledge and reset alarms.
- •Activate auxiliary contacts.
- •Access camera specific features by camera menu.

Selected operators shall have the ability to program automated sequences as described below:

- •Group Presets: Up to 16 camera preset positions (including camera to monitor selections).
- •Tour Sequences: Preprogrammed camera display sequences in both forward and backward direction. Each step of the sequence consists of camera number, dwell time, camera position preset, and auxiliary control state.
- •Group Tour Sequences: Multiple group camera presets may be linked together with a dwell time. Selected operators shall have the ability to program alarm events where an external system may be activated by an internal system alarm originating from either video loss, alarm inputs, or cameras with motion detection capability. The system shall also have the ability to activate a single camera or multiple cameras when an alarm event is detected. Camera tours, where inputs from various cameras are automatically cycled through and displayed on a monitor, may also be activated by an alarm event. Alarms shall be cleared when they are manually acknowledged by the operator. The system shall also have an automated alarm acknowledge feature. The system shall be capable of being configured to accommodate more than 30 alarm inputs, and more than 30 alarm outputs.

The system shall be UL listed. The minimum ambient operating temperature range shall be -20 degrees F to 122 degrees F.

638.1005 Camera Specifications The following specifications define the minimum acceptable characteristics for all CCTV cameras used by the Maine Department of Transportation on the Casco Bay Bridge for surveillance applications. All cameras shall be in full color, but they may switch to black and white at night to allow for maximum illumination. These cameras are to be of "dome" type construction. This camera dome shall have a diameter, which is less than 8 inches, and a height, which is less than 12 inches. Please note that these maximum dimensions are for the dome camera unit, and do not include the dimensions of the environmental enclosure (described at the end of this specification).

- •Mean Time Before Failure 50,000 hours (minimum)

638.1006 Environmental Enclosure The outdoor dome camera housing shall have provision for either wall or pole mounting. The enclosure shall enhance the ability of the camera to withstand exposure to temperature, moisture, dust, and other contaminants. The upper dome shall be constructed of UV stable white plastic, steel, or acrylic. The lower dome shall be made of distortion free acrylic. The lower dome shall not be more than 16 inches in diameter. The enclosure shall contain an electric 50 watt (min) heater with a thermostat for temperature control. The enclosure shall contain a blower that is on continuously to aid in the heating and cooling of the camera. The dome weight shall not exceed 20 pounds (without camera).

638.1007 Color PTZ CCTV Camera Specifications The following specifications define the minimum acceptable characteristics for color, pan-tilt -zoom (PTZ), CCTV cameras used by the Maine Department of Transportation on the Casco Bay Bridge for surveillance applications.

| •Optical Zoom Ratio | | | |
|--|--|--|--|
| •Electronic Zoom | | | |
| •Panning Range | | | |
| •Manual Panning Speed Adjustable from 0.1 degree / second to 45 | | | |
| degrees / second. | | | |
| •Preset Mode Panning Speed 90 degrees / second (minimum) | | | |
| •Tilting Range 0 degrees to 180 degrees (minimum) | | | |
| •Manual Tilting Speed Adjustable from 0.1 degrees / second to 45 | | | |
| degrees / second | | | |
| •Preset Mode Tilting Speed 90 degrees per second (minimum). | | | |
| •90 Degree Tilt Picture Flip Electronic Display Flip (No mechanical | | | |
| camera rotation at 90°) | | | |
| •Number of Preset Positions 32 (minimum) | | | |
| •Ambient Operating Temperature –20 degrees F. to +122 degrees F. (In | | | |
| environmental enclosure) | | | |
| •Built-in Alphanumeric DisplayYes | | | |
| •Built-in Auto FocusYes | | | |

- •Built-in Motion Detector Yes
 •Display Privacy Zone Masking Yes
- •Automatic Backlight Compensation... Yes

638.1008 General

Due to the nature of operation of the bascule bridge, those cameras located on the southern side of the bridge must be hardwired to a single location where the data can be sent via a wireless signal to a receiver unit on the north side. This system should be capable of continuously sending all camera data simultaneously.

Power to operate the system can be picked up from the spare circuits located in each electrical room on the North and south side operating towers. The contractor will be responsible for all connections and electrical runs in accordance with the National Electrical Code and the manufacturers' recommendations. NEMA 4x enclosures shall be used in all applications, unless contractor can demonstrate that equipment can not be located in one. All hardwire applications (electrical or video) shall be appropriately supported and protected from damage due to the harsh environmental elements associated with the bridge and potential debris from bridge openings.

<u>638.1009 Method of Measurement</u> The CCTV security system shall be measured by the lump sum, complete in conformance with these specifications and acceptably installed.

638.1010 Basis of Payment Payment will be made at the contract unit price per lump sum for all work completed and accepted, which price and payment thereof shall constitute full compensation for all labor, materials, equipment, expenses and incidentals for completing the work. Pay will be made under:

Pay Item 638.10

Pay Unit Lump sum

SPECIAL PROVISIONS SECTION 655 ELECTRICAL WORK (Machinery Enclosure Electrical)

DESCRIPTION

This work consists of providing all material and installation of the following electrical provisions for the machinery enclosures:

- a) Relocation of the motor resistor enclosures
- b) Disconnect switches for spare hydraulic power units
- c) Exhaust fans and louvers
- d) Space heaters
- e) Raceway and conductors to the relocated hydraulic power units
- f) All necessary disconnects, enclosures, wiring and appurtenant hardware as may be required

REFERENCES

All work and materials shall be in conformance with the applicable sections of the following references unless specified otherwise.

a) American Association of State Highway and Transportation Officials:

STANDARD SPECIFICATIONS FOR MOVABLE HIGHWAY BRIDGES, 1988

b) National Fire Protection Association:

NFPA 70, National Electrical Code, 1999

MATERIALS

Items pertaining to electrical provisions for the machinery enclosures are as listed and described on the contract plans. All components shall be corrosion resistant.

Disconnect switches for the spare hydraulic power units shall be identical to existing.

INSTALLATION

Installation of the electrical equipment for the machinery enclosures shall be as shown on the plans.

Motor resistors shall be connected using temporary wiring during construction of the enclosure walls.

Specific locations shown for the new equipment may be adjusted to suit field conditions, with approval of MDOT.

Attachments to concrete floors and walls shall use drilled-in epoxy/adhesive type concrete anchors.

Attachments to the prestressed concrete roof panels shall be in strict accordance with detail on the plans to avoid damage to prestressing strands in the panels.

The Contractor shall take all necessary measures to protect the existing structure and existing electrical and mechanical equipment. The Contractor shall be responsible for any damage to such structure or equipment.

METHOD OF MEASUREMENT

Machinery Enclosure Electrical will be measured for payment as one lump sum.

BASIS OF PAYMENT

The accepted electrical provisions for the machinery enclosures, including the furnishing and installation of all new materials required to complete the working and trouble-free installation described herein, and on the plans, will be paid for at the contract lump sum price, which price shall include specified removals and items which will be relocated.

Payment for Machinery Enclosure Electrical will be made under:

| Item No. | Pay Item | <u>Unit</u> |
|----------------|--------------------------------|-------------|
| (55 (0 | MACHINEDV ENGLOCUPE ELECTRICAL | I C |
| 655. <u>60</u> | MACHINERY ENCLOSURE ELECTRICAL | Lump Sum |

SPECIAL PROVISION

SECTION 800 AIR BUFFER ACCESS

<u>800.01</u> <u>Description:</u> This work shall consist of furnishing and installing the work described in the following sketches and notes.

<u>800.02 Method of Measurement:</u> Air Buffer Access shall be paid for as a lump sum, complete and accepted.

800.03 Basis of Payment: Payment will be made at the contract unit price per lump sum for all work completed and accepted, which price and payment thereof shall constitute full compensation for all labor, materials, equipment, expenses and incidentals for completing the work. Payment will be made under:

Pay Item 800.30

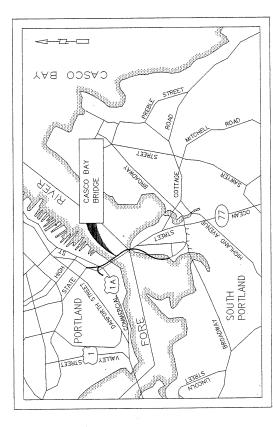
Pay Unit Lump Sum

DEPARTMENT OF TRANSPORTATION STATE OF MAINE



CASCO BAY BRIDGE

BASCULE SPAN AIR BUFFER ACCESS



EUGENE WALDNER WALDNER

A PORTION OF CUMBERLAND COUNTY
1/2 MILE 0 1/2 MILE 1 MILE

LOCATION MAP

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Modjeski and Masters, Inc.

GENERAL NOTES - AIR BUFFER ACCESS

SPECIFICATIONS

All materials and workmanship shall be in accordance with the State of Maine Department of Transportation Standard Specifications, Highways and Bridges, Revision of April 1995 and the Special Provisions, if applicable.

ANSI/AWS D1.1-2000 Structural Welding Code.

MATERIALS

Structural Steel: ASTM A709, Grade 36 or ASTM A36.

High Strength Bolts:

7/8—inch diameter H.S. bolts conforming to ASTM A 325, unless noted.

Anchor Bolts:

3/4—inch diameter Type 304 S.S. anchor bolts, installed in air—drilled holes using epoxy type or polyester resin anchor material, minimum ultimate tensile load capacity of 19,000 pounds and ultimate shear capacity of 9,500 pounds.

Pipe railing: ASTM A53

ASTM A53, grade B.

Structural tubing: ASTM A501.

Galvanizing:

All structural steel shapes and hardware shall be galvanized in accordance with ASTM A123 and A153 prior to assembly and erection. Galvanized coating that is damaged due to fabrication, handling or welding shall be repaired in accordance with ASTM A780.

CONSTRUCTION

A total of four air buffer access platforms shall be provided two in the North Bascule Pier and two in the South Bascule Pier.

Field Verification

Dimensions are based on the original design plans. Actual dimensions may vary. The Contractor shall be responsible for verifying all dimensions in the field and taking additional measurements as necessary to supplement the dimensions provided.

Potential Interference

These plans are detailed based on the original design drawings and information made available to the designer. Existing conditions in the field may vary from the information shown on these plans. Any potential interference between the new construction and the existing conditions of the movable span have been anticipated as much as possible, and the attempt made to avoid such interference. However, it is possible that additional interference or conflict may exist which are not detailed on these plans. The Contractor shall be responsible for verifying the extent of these potential interference and any unanticipated potential interference should be reported to the Engineer immediately.

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GENERAL NOTES - CONT

Access

traffic and marine traffic shall be maintained at all times marine traffic. A plan of execution, including projected durations of activities, shall be submitted to the DOT for The contractor shall not Access from the water must be The contractor shall plan his work in such a manner as authorities by the contractor prior to beginning his work. The contractor is responsible for his methods and ins of accessing the work. The contractor shall not unless special permission is obtained from the proper assume that the operation of the lift bridge may be Highway to limit such periods of interruption to highway or approval prior to starting work The contractor shapstruct the navigation channel without permission from the water mi coordinated with the US Coast Guard, including obtaining the necessary permits to occupy the interrupted to provide access to his work. means of accessing the work. from the Coast Guard. navigation channel.

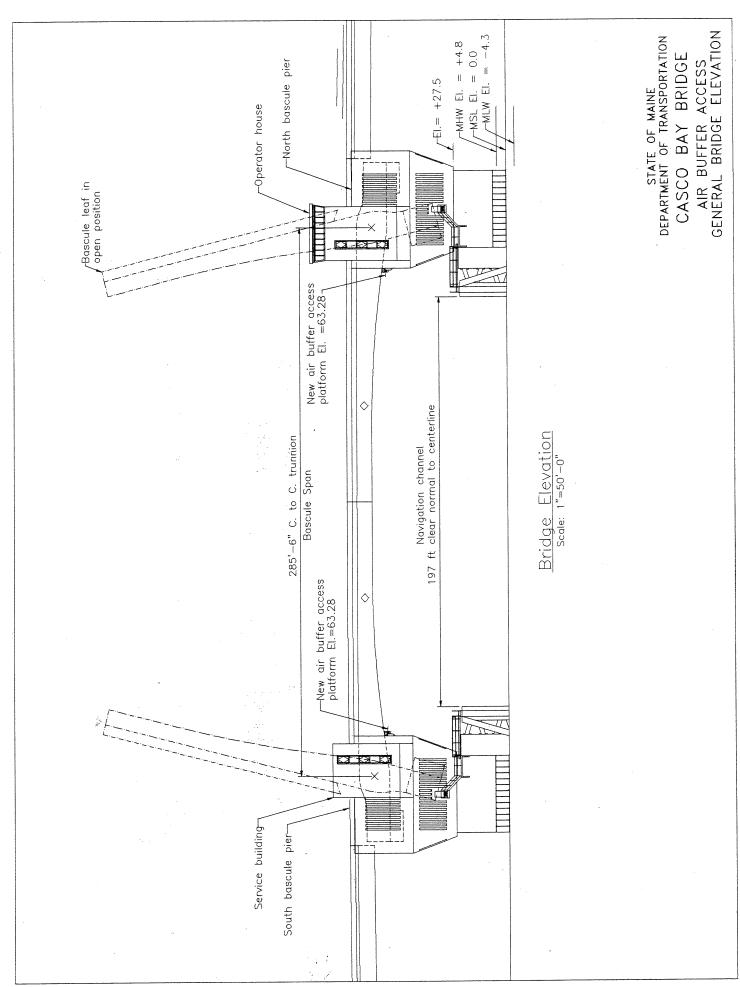
Safeguards

The Contractor shall exercise special care to protect the operating machinery from damage or from contamination caused by his construction activities in the vicinity of the machinery components.

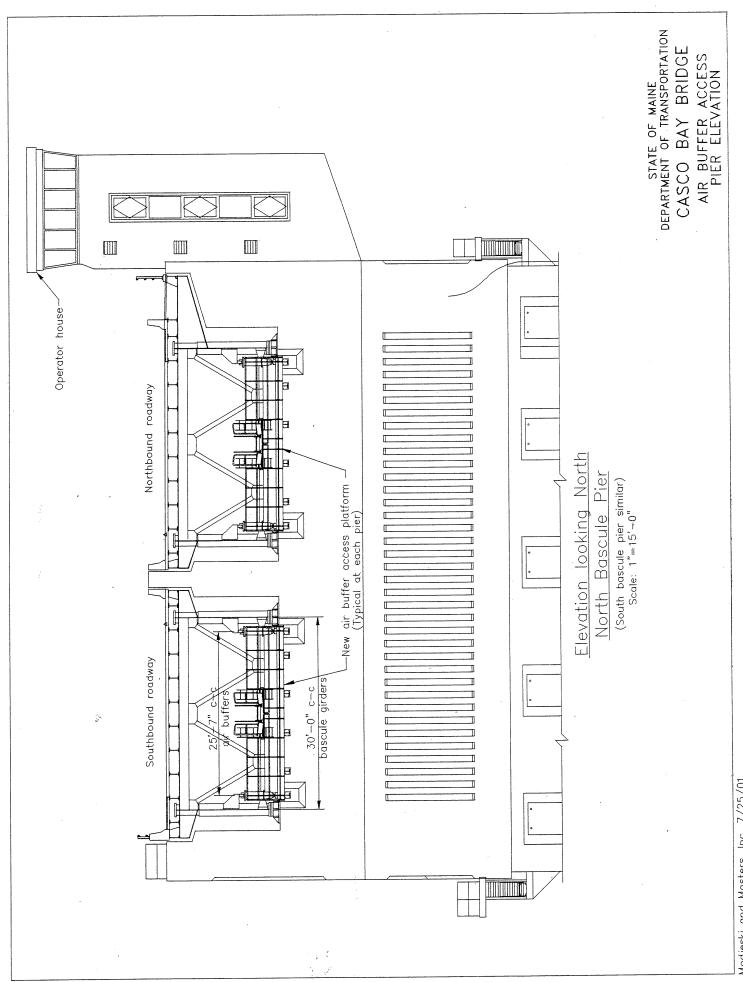
The Contractor shall develop a set of safety procedures to safeguard personnel who will be performing work in connection with the movable bridge. He shall adhere to the Casco Bay Bridge lockout tagout procedure when working in close proximity of moving equipment.

The Contractor shall not interfere with normal bridge operation without obtaining prior permission from Bill Johnson of the Maine Department of Transportation Bridge Maintenance. Access to bridge operating machinery shall be provided at all times.

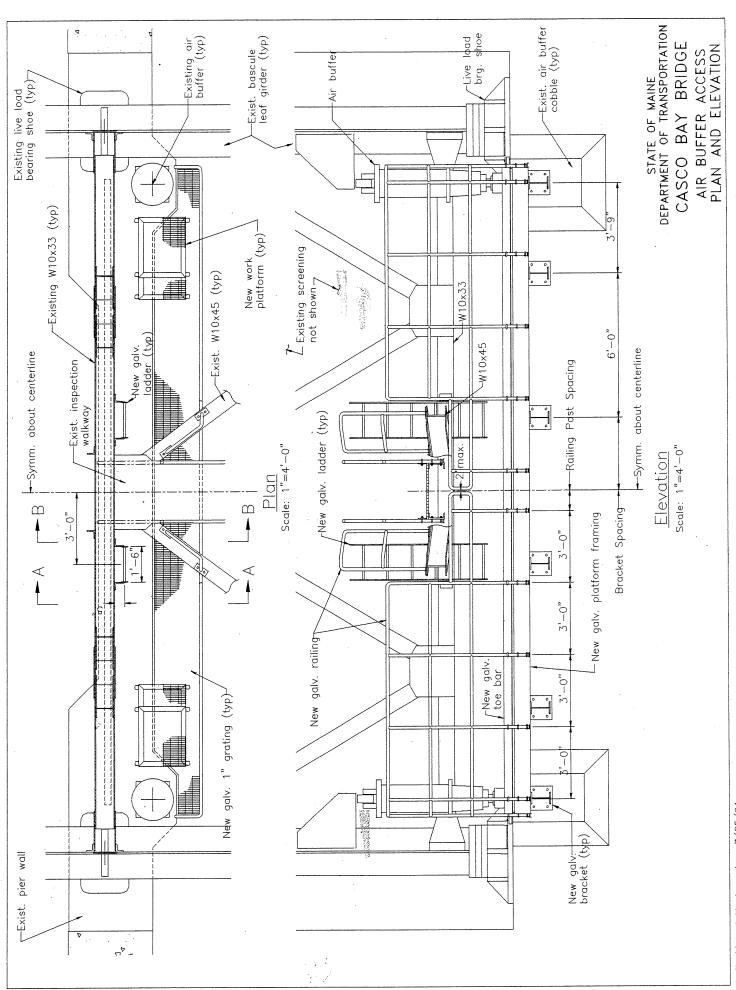
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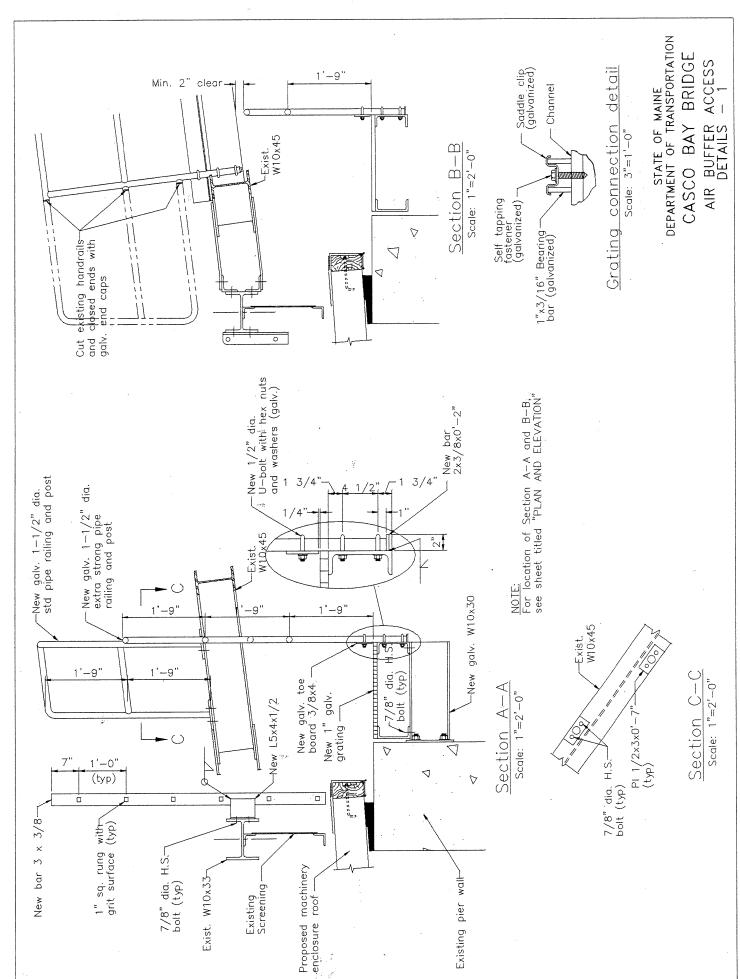
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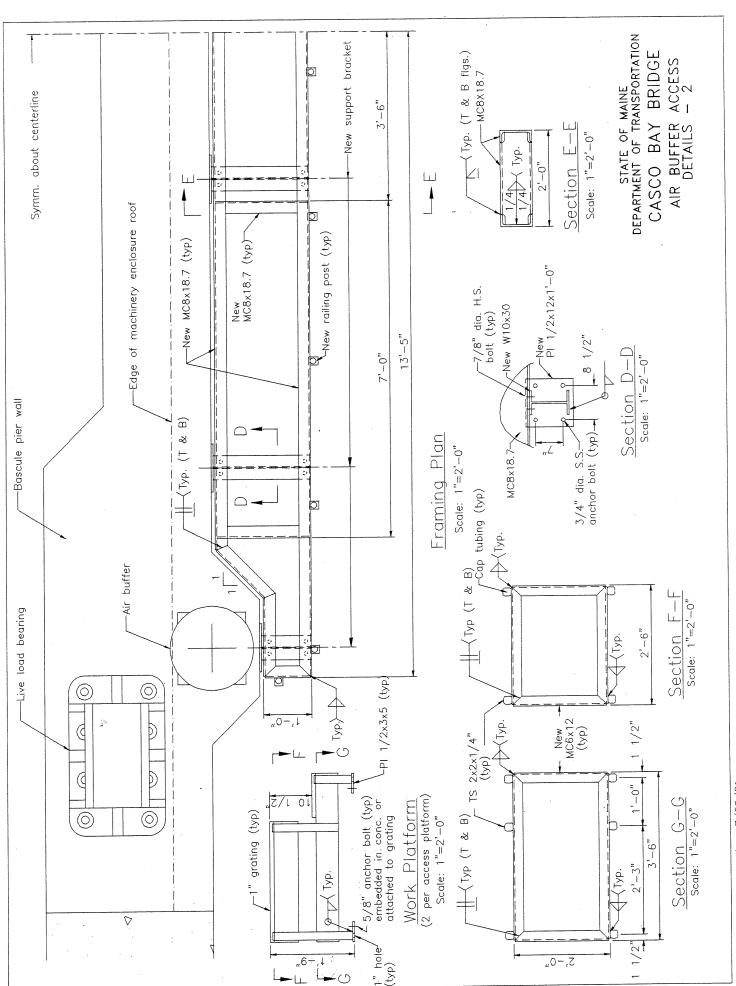
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SPECIAL PROVISION SECTION 815

BASCULE TOWER SIDING/SCAFFOLDING

815.10 Description: This work shall consist of designing, furnishing and installing a medal or composite building siding on all four sides of the bridge Operator's House (North Tower). This shall include all mounting hardware, sealants, material, trims, labor, equipment and all other miscellaneous items necessary to complete this work. The siding shall be designed and installed to fit all existing windows, doors, vents, openings, etc., and shall be trimmed and sealed at all locations. The siding shall start at the upper most windows and extend down the tower on three (3) sides approximately Thirty Nine (39) feet and on the bridge roadway side approximately Fourteen (14) feet. There is approximately 2,800 square feet of area to be covered with 390 square feet of that area being comprised of (3) doors, (9) windows, (6) window panels and miscellaneous openings.

The siding will also need to integrate with a short canopy/visor outlined in the allowance specifications for over the entry door from the bridge deck. No portion of the system may interfere with the bridge movement/operation or snow removal equipment.

This work shall also include the design and installation of an electrically operated scaffolding system for 3 sides of the tower structure. It shall be rated for 1000 lbs of live load and meet all OSHA and ANSI safety standards. All machinery and mechanical parts shall be properly housed to provide 100% protection from both the weather and birds. Walkway components may be stored on the outside of the tower as long as they are stored such that they are hidden from view and do not interfere with the operation of any windows, doors or other systems. The walkway may also be removable, if such operation can be done with a boom truck.

815.20 Materials: The siding system, including all hardware and sealants, shall be an interlocking system designed to meet all current industry standards for high rise building structures (or sustained high wind environment), including but not limited to the American Institute of Steel Construction (AISC), American Iron and Steel Institute (AISI) and American Society of Testing Materials (ASTM).

The Intent of the siding is to keep the underlying concrete surfaces dry during any rain event. The color of the siding shall closely match that of the existing concrete surface.

<u>815.30 Method of Measurement:</u> Bascule Tower Siding/Scaffolding shall be paid for as a lump sum, complete and accepted.

<u>815.40 Basis of Payment:</u> Payment will be made at the contract unit price per lump sum for all work completed and accepted, which price and payment thereof shall constitute full compensation for all labor, materials, equipment, expenses and incidentals for completing the work. Payment will be made under:

Pay Item 815.50

Pay Unit Lump Sum

SPECIAL PROVISIONS SECTION 860 BRIDGE OPERATING MACHINERY (Hydraulic Power Units Relocation And Reducer Modifications)

DESCRIPTION

The four hydraulic power units (HPU), one per span, which operate the tail lock cylinders, complete with reservoir, pump, motor, manifolds, directional control valve, hand pump, and other valves, gages, and controls shall be relocated from their present position on the shelf between the two tail locks on each span, to a new location adjacent to the center wall, and inside the new protective machinery enclosure, as shown on the plans.

In addition, the four hydraulic power units (HPU), one per span, which operate the machinery brakes, complete with reservoir, pump, motor, manifolds, directional control valve, hand pump, and other valves, gages, and controls shall be relocated from their present position on top of the four main reducers to the corner of the new protective machinery enclosure, as shown on the plans.

All of the HPU's shall be bolted to new stainless steel welded support bases, which is 18" high and anchored to the concrete floor with bolt sizes as specified on the plans. See drawing "Hydraulic Power Unit Layout".

Purchase a new machinery brake HPU, exactly the same as existing, to be used during a swapping process, along with the extra tail lock HPU already in the possession of MDOT. Both spare HP units are to be turned over to MDOT at the completion of the project.

Replace the hydroscopic breather on each main reducer with a standard filter/vent unit.

Replace the existing emergency gear-motor on each main reducer with a new right angle gear-motor, and new support bracket (four total).

MATERIALS

All new tubing and fittings shall be stainless steel, Type 304 or equal. Tubing shall be cold finished and seamless, ASTM A269. The new tubing shall be 3/4" O.D. with 0.095" wall thickness for the machinery brakes, and 1" O.D. with 0.120" wall thickness for the tail locks.

All new fittings and tubing runs shall be rated for a working pressure of 3000 psi. All new tubing shall be flushed until bright, clean, and free of contaminates before assembly.

Casco Bay Bridge August 3, 2001

All new hydraulic hose shall meet or exceed SAE Standard 100R16 and be a minimum of ½" I.D. Hose end fittings shall be 37 degree (J.I.C.) with female threads. Maximum working pressure shall equal or exceed 3000 psi.

Turns and offsets in the interconnecting hydraulic tubing shall be made by bending the tubing. Minimum bend radii shall be as follows:

All tubing shall be supported in stainless steel cushioned clamp assemblies with a maximum spacing as shown below:

| Tube O.D. | Maximum spacing (ft) | |
|-----------|----------------------|--|
| 3/4" | 4 feet | |
| 1" | 5 feet | |

The HPU base weldments are to be made of stainless steel, Type 304 (ASTM A276 for angles, ASTM A240 for plate).

CONSTRUCTION

The relocation of the HPU's shall not occur until all required hydraulic tubing has been installed, and all related electrical modifications have been made, so that the relocation of each HPU can occur within a minimum length of time. Do not relocate each HPU unless there is no scheduled bridge opening for the period of time that each HPU will be out of service. Only one HPU of each type shall be relocated at a time. Do not begin to have an HPU out of service without the approval of the Engineer.

RELOCATION OF TAIL LOCKS HPU

Obtain an existing spare tail lock HPU from MDOT to use during a swapping process with the existing units to save down time. Return extra unit to MDOT at the completion of the project.

Relocate the HPU's as shown on the plans. Attach the support base weldment to the floor using stainless steel anchor bolts, 3/4" diameter minimum, and epoxy grout. Use a minimum anchor bolt embedment of 4".

Run the new tubing lines to the center wall, then along the center wall to the relocated HPU in the new machinery enclosure. Where the new lines go through the enclosure wall, use rubber grommets to seal and protect the new lines. Use clamping assemblies on the new lines, at the maximum spacing stated above.

Drain the tail lock HPU and relocate by removing the anchorage, disconnecting the piping from the lines that run to both cylinders, and plug the tees, or remove the tees and install unions in the lines. Install the HPU inside the new machinery room enclosure near the center pier wall next to the ladder to the trunnion bearings, by bolting to the support base plate using 1/2" diameter stainless steel bolts, ASTM F593, Alloy Group 1 or 2, Condition CW.

At the end of the horizontal tube runs, to the tail lock cylinder nearest the center wall, disconnect the hoses and install new tees and necessary reducers to connect the new tubing runs to the relocated HPU. Reconnect the cylinder hoses to the new tees.

After all connections are made, and before any system testing, flush cycle the entire system through a 5 micron filter.

Replace all filters and clean all strainers and fill each HPU with new hydraulic oil, of the correct type and viscosity as recommended by the manufacturer, and suitable for this climate.

All of the preceding work shall be executed or supervised by a local Fluid Power company (such as Motion Industries), trained and experienced in this class of work.

RELOCATION OF MACHINERY BRAKES HPU

Purchase a new spare machinery brake HPU, which is identical to the existing units. (The existing units were manufactured by Airline Hydraulics, Bensalem, PA.) Use this extra unit during a swapping process, to reduce down time. Return spare unit to MDOT at the completion of the project.

Install the machinery brakes HPU as shown on the plans. Attach the support base weldment to the floor using stainless steel anchor bolts, 3/4" diameter minimum, and epoxy grout. Use a minimum anchor bolt embedment of 4".

Run the new tubing line from the relocated HPU to the enclosure ceiling at the wall, then across the ceiling to a point above the main reducer. Use clamping assemblies on the new lines, at the maximum spacing stated above. From the end of the tubing run, use a tee and hose assemblies to the two machinery brakes per reducer.

Drain the machinery brake HPU and relocate by removing the anchorage, disconnecting the the lines that run to both brakes. Install the HPU inside the new machinery room enclosure at the corner of the enclosure opposite the resistor cabinet, by bolting to the support base plate using 3/8" diameter stainless steel bolts, ASTM F593, Alloy Group 1 or 2, Condition CW.

After all connections are made, and before any system testing, flush cycle the entire system through a 5 micron filter.

Replace all filters and clean all strainers and fill each HPU with new hydraulic oil, of the correct type and viscosity as recommended by the manufacturer, and suitable for this climate.

All of the preceding work shall be executed or supervised by a local Fluid Power company (such as Motion Industries), trained and experienced in this class of work.

REPLACEMENT OF EMERGENCY GEAR-MOTORS

The existing emergency gear-motor with brake located on the input end of each main reducer is to be replaced with a new right angle gear-motor and new support bracket. The new gear-motor shall have an output shaft of same diameter and length as the existing, for compatibility with the existing manual shifter cut-out coupling.

The new gear-motor with motor brake shall be an SEW-Eurodrive, model number K77DV132M48M15HR, with a 10 hp, 1740 RPM motor, and a 10.84:1 right angle reducer for an output of 161 RPM. The reducer shall have a 2.00" diameter shaft, and oriented for the B3 I mounting position with the motor vertical. Voltage for new motor and motor brake shall be the same as the existing gear-motor.

The new support bracket shall allow the new output shaft to be at the same height and position as the existing output shaft, and allow mounting to the existing main reducer bracket and existing gear-motor mounting holes and bolts, using shims as required.

Use the existing cut-out gear coupling with manual shifter by removing the coupling hub from the existing gear-motor and assembling it to the new gear-motor output shaft. Modify the shifter lever if it is too close to the new vertical motor for proper operation.

Provide and install conduit and wiring as may be required for connections to the new gear-motor and motor brake.

TESTING

After completing the relocation of the tail locks HPU, each of the four tail lock units shall be operated for a minimum of 3 cycles. Also test the manual operation pump for one complete cycle for each of the four tail lock systems. Inspect for leaks or other problems during each operation.

After completing the relocation of the machinery brakes HPU, each of the machinery brake units shall be operated for a minimum of 3 cycles, and inspected for leaks or other problems during operation. Also test the manual operation pump.

After completion of the new emergency right angle gear-motor installation, test each unit through two partial opening cycles (to approximately 20 degrees open) and one full opening

cycle. Between each test, inspect the installation for any problems, especially in the cut-out coupling alignment and shifter mechanism operation.

METHOD OF MEASUREMENT

Hydraulic Power Units Relocation and Reducer Modifications will be measured for payment as one lump sum.

BASIS OF PAYMENT

Payment for Hydraulic Power Units Relocation and Reducer Modifications will be made at the contract lump sum price bid for which price and payment shall be full compensation for furnishing all labor, materials, equipment, and incidentals necessary to complete the work under the item in accordance with the Contract drawings and these special specifications, including painting, lubricating, and all other features necessary to insure the satisfactory operation of all the hydraulic systems, and the new emergency gear-motor.

Lubricants, oil seals, gaskets, and any other non-metallic materials will not be measured for payment but the cost thereof shall be included in the prices stipulated for the machinery.

No direct payment will be made for temporary power, should this be necessary during the course of the work, nor for any extra expense the Contractor may incur thereby, but the cost thereof, if any, shall be included in the price bid for the work.

Payment will be made under:

| Item No | Pay Item | Pay Unit |
|----------------|--|----------|
| 860. <u>20</u> | Hydraulic Power Units Relocation and Reducer Modifications | Lump Sum |

SPECIAL PROVISION

SECTION 880 SPAN LOCK SOCKET MODIFICATION

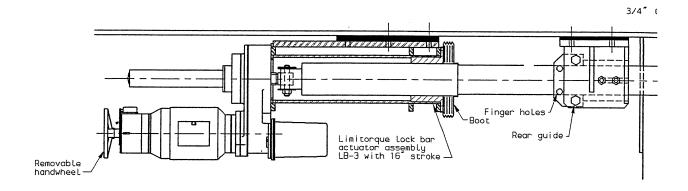
<u>880.01 Description:</u> This work shall consist of furnishing and installing the work described in the following sketches and notes.

<u>880.02 Method of Measurement:</u> Span Lock Socket Modification shall be paid for as a lump sum, complete and accepted.

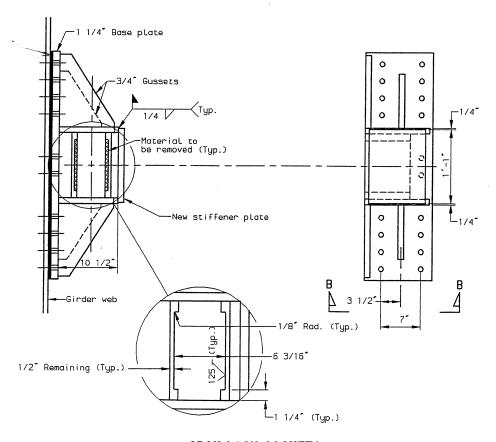
880.03 Basis of Payment: Payment will be made at the contract unit price per lump sum for all work completed and accepted, which price and payment thereof shall constitute full compensation for all labor, materials, equipment, expenses and incidentals for completing the work. Payment will be made under:

Pay Item 880.12

Pay Unit Lump Sum



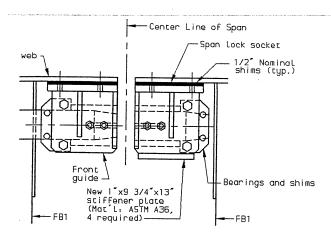
PLAN
Scale: 1 1/2 = 1'-0"



SPAN LOCK SOCKETS

Scale: 1 1/2" = 1'-0"

| F.H.W.A. REG. NO. | STATE | PROJECT NUMBER | SHEET NO. | |
|----------------------|-------|----------------|--------------|---|
| 1 | MAINE | DPI-0068(012) | t | ľ |



9 3/4 New stiffener plate

<u>VIEW B-B</u> Scale: 1 1/2" = 1'-0"

SUGGESTED PROCEDURE:

- Close traffic lane closest to span lock socket being modified.
- 2. Withdraw only this single lock bar assembly.
- 3. Remove upper and lower span lock bearings and shims.
- Modify existing stiffeners and grind smooth as shown on this drawing.
- 5. Weld new 1" thick stiffener plate.
- 6. Paint new plate and affected areas of existing assembly.
- Reinstall the upper and lower bearings and shims previously removed.
- 8. Test operate assembly.
- 9. Repeat all steps for the other three span lock assemblies.

STATE OF MAINE DEPARTMENT OF TRANSPORTATION

PORTLAND - S.PORTLAND BRIDGE
OVER FORE RIVER

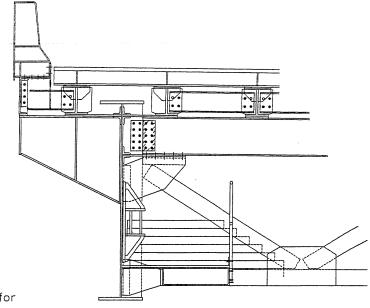
CUMBERLAND COUNTY

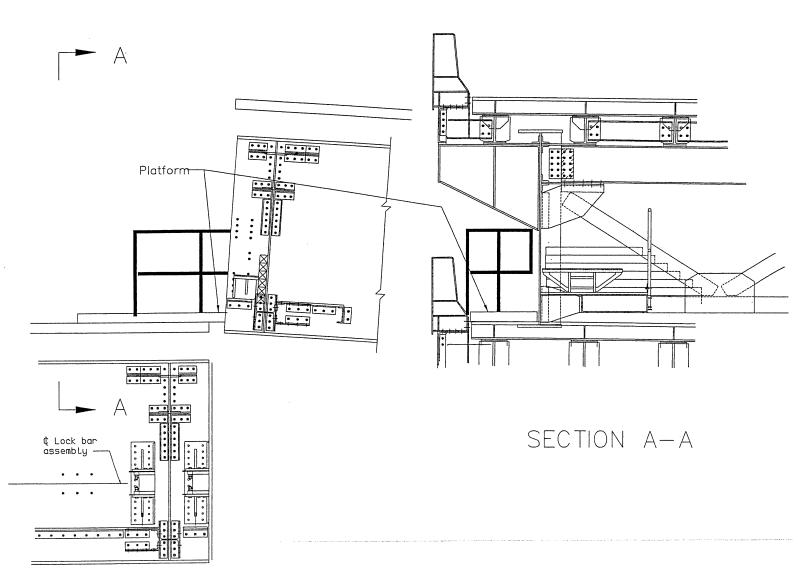
SPAN LOCK SOCKET MODIFICATIONS

SHEET 1 OF 1 AUGUSTA, MAINE

PROCEDURE TO REMOVE THE SPAN LOCK RECEIVER FOR MODIFICATION OR REPLACEMENT

- 1. Place timber blocking between diagonal of FB and girder stiffener.
- 2. Operate the leaf to raise it about 3 degree or until it can be easily accessed.
- 3. With the aid of a platform supported from the opposite leaf, unbolt the receiver attachment and lower it onto the floor.
- 4. Remove the span lock receiver onto the opposite leaf of the bascule span and take it to the shop for modification.





SPECIAL PROVISION

SECTION 880 AIR BUFFER RETAINER PIN

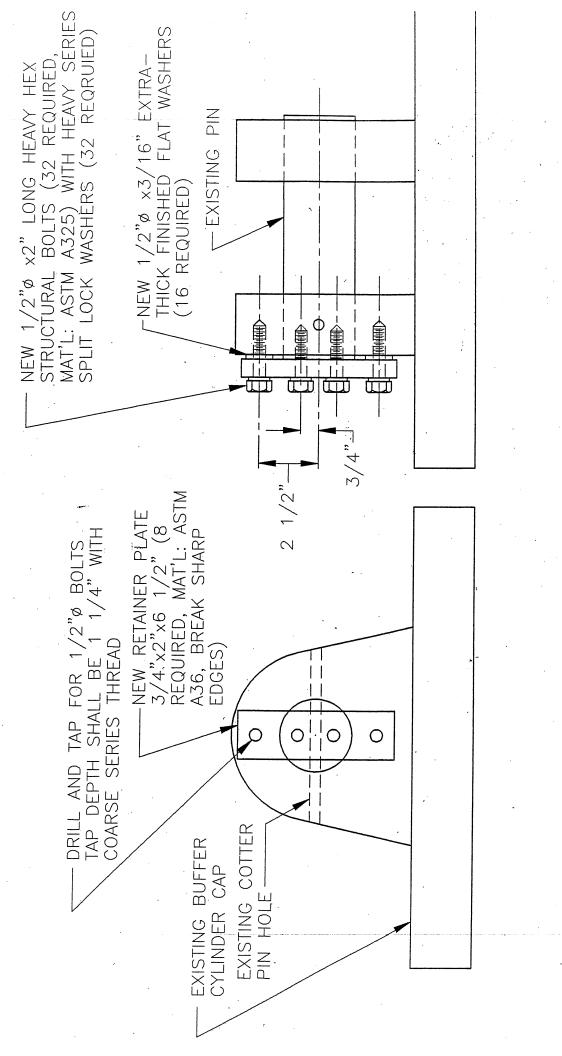
880.1010 Description: This work shall consist of furnishing and installing the work described in the following sketches and notes.

<u>880.1020 Method of Measurement:</u> Air Buffer Retainer Pin shall be paid for as a lump sum, complete and accepted.

880.1030 Basis of Payment: Payment will be made at the contract unit price per lump sum for all work completed and accepted, which price and payment thereof shall constitute full compensation for all labor, materials, equipment, expenses and incidentals for completing the work. Payment will be made under:

Pay Item 880.13

<u>Pay Unit</u> Lump Sum



NEW AIR BUFFER PIN RETAINER

SPECIAL PROVISION SECTION 890

MISC. BRIDGE FEATURE ALLOWANCE

890.01 Description: The contractor is advised that there are several areas throughout the bridge structure that will need adjustments and additional work, after the major elements of this contract have been installed. The Department will work with the Contractor to determine the exact scope of these areas and the contractor will supply a price to complete each. Prices will be developed in accordance with the provisions covered in Section 109 of the standard specifications.

The Department will pay for this work on an allowance basis as specified herein for all supervision, equipment materials and labor necessary to complete the work. The Department will reimburse the contractor for the written agreed to prices up to maximum amount of One Hundred Ten Thousand dollars (\$110,000). Work will be authorized via a written work order or a letter signed by both parties.

Work anticipated under this allowance shall include, but may not be limited to the following:

- Design, construction and installation of a canopy/visor type structure over the front entrance to the operator tower that does not interfere with the movement of the bascule span or snow removal equipment.
- Design, construction and installation of a rainwater collection/movement system to keep water from draining onto the trunnions.
- Construction and installation of enhancements to the bird deterrent systems associated with the machinery areas.
- Adjustments to the live load shoes and protection for the limit switches associated with the tail lock system.
- Closing up interior finishes around the windows in the operator tower after the siding has been installed. This may require removal of mold and other damaged components.
- Investigating the existing condition of one of the span lock drives or installing a heating system for these drives.
- Misc. Adjustments to operating units or electrical systems not covered under the Machinery Enclosure specifications or drawings.
- Touch up painting for all Machinery within the proposed enclosure after the enclosure has been installed. This will not include damage done as a result of the work done by the contractor, but does include all existing damage.

890.02 Method of Measurement: Work under this allowance shall be paid for as a lump sum for each written work order, completed and accepted. Written work order assignments may not total more than the allowance value, without a written change order adjusting this amount.

890.03 Basis of Payment: Payment will be made at the contract unit price per lump sum for all work completed and accepted, which price and payment thereof shall constitute full compensation for all labor, materials, equipment, expenses and incidentals for completing the work. Pay will be made under:

Pay Item 890.10

Pay Unit Lump sum